UNIVERSITY OF PITTSBURGH

2003-06

Undergraduate Bulletin







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Undergraduate Bulletin

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The University

THE UNIVERSITY

■ ABOUT THE UNIVERSITY OF PITTSBURGH

The University of Pittsburgh is an internationally respected center of learning and research, offering exceptional educational opportunities in the arts, sciences, and professions.

Mission

The University of Pittsburgh's mission is to advance teaching, research, and public service. This three-part commitment enables the University to serve others by

- Educating diverse students from the region, the nation, and the world;
- Expanding boundaries of knowledge, discovery, and technology; and
- Enhancing quality of life in the Western Pennsylvania region and beyond.

History

The University began in the Pennsylvania wilderness as the Pittsburgh Academy in 1787, the year the U.S. Constitution was adopted. Thirty-two years later, the Pittsburgh Academy became the Western University of Pittsburgh, and in 1908, the school changed its name to the University of Pittsburgh. Graduate degrees have been conferred since 1836, and the first doctoral program was developed in 1884. A private institution for most of its past, the University of Pittsburgh became state-related in 1966, establishing a relationship with the Commonwealth of Pennsylvania that continues to benefit both partners. Today, as an elected member of the prestigious Association of American Universities, Pittsburgh claims its place among the top public research universities in the nation.

Accreditation

All campuses of the University of Pittsburgh are accredited by the Middle States Association of Colleges and Schools' Commission on Higher Education. Schools, programs, and departments may furthermore be accredited by discipline-specific accrediting bodies.

Academic Organization and Pittsburgh Campus Overview

As an independent, state-related, coeducational institution, the University of Pittsburgh's Pittsburgh campus offers a multitude of degree-granting and other programs housed in 16 undergraduate, graduate, and professional schools. The University system includes the Pittsburgh campus and four regional campuses at Bradford, Greensburg, Johnstown, and Titusville.

There are approximately 100 academic, research, and administrative buildings and residence halls located on the Pittsburgh campus, which covers 132 acres in the culturally rich Oakland neighborhood. At the heart of the campus stands a central landmark—the Cathedral of Learning, a 42-story Gothic tower, which is the tallest school building in the Western Hemisphere. The Cathedral contains the Nationality Rooms, 26 classrooms, each designed to reflect a distinct culture and providing an overall, multidimensional understanding of America's heritage.

At the Pittsburgh campus, 4,005 faculty serve 27,190 students, including 9,280 graduate and 17,910 undergraduate students. Alumni accomplishments range from managing Fortune 500 corporations, to writing best-selling novels, to unlocking the secrets of DNA ... and more.

As we enter the 21st century, the University of Pittsburgh remains a place of enduring tradition and vitality, true to the work ethic of Western Pennsylvania, rich in intellectual rigor, and committed to preparing students for their lives and careers.

Web Address

For more information on the University of Pittsburgh, see the University's Web site at www.pitt.edu.

APPLICATION FOR ADMISSION

Most undergraduate admissions to the University of Pittsburgh's Pittsburgh campus are handled by the Office of Admissions and Financial Aid. This section details the general requirements and procedures for admissions to the University through that office and also provides admissions information for those prospective students whose applications are not handled by that office. Some schools and programs require supplemental application materials or admission requirements in addition to those requested by the Office of Admissions and Financial Aid. Those requirements are listed within the Schools and Academic Programs section of this bulletin.

The admissions information in this section is subject to change at any time. It is intended to serve only as a general source of information.

■ PITTSBURGH CAMPUS FRESHMAN ADMISSIONS

Prospective students who have not earned college credits since graduating from high school with a diploma or GED should consult this section for information on admission to the University of Pittsburgh.

Admissions Contact Information

University of Pittsburgh
Office of Admissions and Financial Aid
4227 Fifth Avenue, Alumni Hall
Pittsburgh, PA 15260-6601
412-624-PITT
412-624-7488
oafa@pitt.edu
www.pitt.edu/~oafa

High School Preparation

Freshman applicants to the University of Pittsburgh should have completed a minimum of 15 units of credit in college preparatory courses. Flexibility exists within this requirement, however:

- School of Engineering applicants should have completed four units of mathematics—algebra I, algebra II, plane geometry, and trigonometry—as well as a unit each of chemistry and physics.
- School of Nursing applicants must have 18 units, with one year of chemistry with a lab and one year of another lab science.
- School of Pharmacy applicants seeking conditional admission must have completed one year of high school biology with laboratory, chemistry with laboratory, math through trigonometry, and either a second-level biology course, second-level chemistry course, or physics.
- College of Arts and Sciences applicants should have completed three years of mathematics (including algebra I, geometry, and algebra II or trigonometry), three years of science (with labs), and three years of a single foreign language with a C average or better (or make up the deficit with one year of college-level study).
- College of Business Administration applicants should have completed algebra I and II and geometry, and preferably another math course such as trigonometry or precalculus in their senior year, as well as two years of a lab science.

Application Procedures

Students seeking admission to the University of Pittsburgh must complete and send the following to the Office of Admissions and Financial Aid: the Freshman Application form (students may also apply via the Web at www.pitt.edu/~oafa), an official high school transcript, an SAT I or ACT result (preferably from the student's senior year), and the $35 application fee. The personal essay, included with the Freshman Application form, is optional for all students except pharmacy applicants but is strongly recommended for scholarship candidates and for students who wish to be reviewed on more than their high school record and SAT/ACT results.

Exceptions: International students, applicants to the College of General Studies, and applicants to the Dental Hygiene Program should see the application procedures outlined under their respective admissions sections (International Student Admissions, College of General Studies Admissions, and Dental Hygiene Program—School of Dental Medicine Admissions).

Application Deadlines

The University of Pittsburgh practices a rolling admissions policy, meaning there is not a specific deadline by which prospective students must apply. Applicants are considered and informed of admission decisions on a first-come, first-served basis. However, applicants who want to be reviewed for merit scholarships must submit applications by January 15. See Academic Merit Scholarships.

Early Admission

High school students wanting to enter college one year early, prior to completing the senior year, may apply as juniors for early admission to some schools. Contact the Office of Admissions and Financial Aid for more information.

Academic Merit Scholarships

Applicants are automatically considered for academic merit scholarships if their application and all supporting materials are received by January 15. The University awards close to 700 academic scholarships, all of which are renewable for three years after the freshman year, provided the student maintains a 3.00 grade point average and satisfactory academic progress. The scholarships offered include

- **Chancellor's Scholarships:** full tuition, room, and board paid. A number of students interviewed for, but not receiving, the Chancellor's Scholarship will be awarded full-tuition scholarships.
- **Adena Johnson Davis Nursing Scholarship:** full tuition, room and board paid.
- **Honors Tuition Scholarships:** $9,000.
- **Helen Faison Scholarships:** full tuition, room, and board paid.
- **Honors Challenge Scholarships:** full tuition paid.
- **Engineering Honors Scholarships:** $1,000–$4,000.
- **Fessenden-Trott Engineering Honors Scholarship:** $9,000.
- **Donald M. Henderson Engineering Scholarships:** full tuition, room, and board paid.
- **Robert R. Lavelle Business Scholarship:** full tuition, room, and board paid.
- **University Scholarships:** $1,000–$10,000. Any freshman applicant who has both a 1300 SAT I (29 ACT) score or better and ranks in the top ten percent of his or her high school class is guaranteed a scholarship of $1000.

Anyone receiving an academic merit scholarship will automatically be considered for admission to certain graduate programs.

Graduate School Guarantees

Outstanding freshman applicants who indicate certain professional programs (including communication science, dental medicine, education, law, medicine, physical therapy, occupational therapy, and public and international affairs) as their intended field of study on the Freshman Application will automatically be reviewed for guaranteed admission into that professional program. Early application is recommended as spaces are limited.

Tuition Deposit

Once accepted, students must reserve their positions in the upcoming class by submitting a nontransferable, nonrefundable $300 enrollment fee (a combined $200 tuition deposit and a $100 Pitt start fee) by May 1 for the fall term. Residence hall accommodations on the Pittsburgh campus are guaranteed to freshmen admitted for the fall term who pay the deposit by May 1 for three full years from the time admission is offered. After that they are available on a first-come, first-served basis.

Deferred Admission

The University does not offer deferred admission for a subsequent term to admitted students not enrolling for the term of their admission. However, students wishing to have their applications re-reviewed for another term may submit a request in writing to the Office of Admissions and Financial Aid. Applications and supporting documentation for the prior academic cycle of fall, spring, and summer are only retained until early October of the next cycle. After that, students who wish to be re-reviewed for admission must submit a new application and supporting credentials.

Admitted freshman students who defer enrollment to attend classes at another institution must file a transfer application. Transcripts will need to be resubmitted.

■ REGIONAL CAMPUS ADMISSIONS

Listed below is the contact information for the admissions offices of the University of Pittsburgh's four regional campuses. Contact the regional campuses for more information on their particular requirements:

University of Pittsburgh at Bradford

Office of Admissions and Financial Aid
300 Campus Drive
Bradford, PA 16701-2898
814-362-7555
1-800-872-1787
admissions@www.upb.pitt.edu
www.upb.pitt.edu

University of Pittsburgh at Greensburg

Office of Admissions and Financial Aid
Millstein Library
1150 Mt. Pleasant Road
Greensburg, PA 15601-5898
724-836-9880
Fax: 724-836-7160
upgadmit@pitt.edu
www.pitt.edu/~upg

University of Pittsburgh at Johnstown

Office of Admissions
450 Schoolhouse Road
157 Blackington Hall
Johnstown, PA 15904
814-269-7050
1-800-765-4875
upjadmit@pitt.edu
www.upj.pitt.edu

University of Pittsburgh at Titusville

Office of Admissions and Financial Aid
504 East Main Street
P.O. Box 287
Titusville, PA 16354
814-827-5668
1-888-878-0462
uptadm@pitt.edu
www.upt.pitt.edu

■ TRANSFER STUDENT ADMISSIONS

Prospective students who are high school graduates and have attended postsecondary institutions, colleges, or universities (except those who took college classes while in high school and are considered freshmen with advanced standing) apply for admission as transfer students through the Office of Admissions and Financial Aid. Transfers between University of Pittsburgh schools or campuses are handled through the school or campus.

Application Procedures

Degree-seeking transfer students who wish to be considered for admission to the University of Pittsburgh must complete and send the Transfer Application form (students may also apply via the Web at www.pitt.edu/~oafa), an official high school transcript, an official transcript from each postsecondary institution attended (whether or not it is intended that all courses will be counted toward a degree at the University of Pittsburgh), an SAT I or ACT score if either test was taken, and the $35 application fee. Contact the specific school and consult the *University of Pittsburgh Guide for Transfer Students* (available from the Office of Admissions and Financial Aid) for more information.

Exceptions: International students, applicants to the College of General Studies, RN to BSN applicants to the School of Nursing, and applicants to the Dental Hygiene Program should see the application procedures outlined under their respective admissions sections (International Student Admissions, College of General Studies Admissions, and Dental Hygiene Program—School of Dental Medicine Admissions).

Admission Deadlines

The University of Pittsburgh practices a rolling admissions policy, meaning there is not a specific deadline by which transfer students must apply. Applicants are considered and informed of admission decisions on a first-come, first-served basis. However, there are several schools and programs that have definitive deadlines by which applications must be submitted for consideration. These deadlines are subject to change and can be verified on the Office of Admissions and Financial Aid Web site at www.pitt.edu/~oafa:

- School of Information Sciences deadlines are August 1 for the fall term, December 1 for the spring term, and April 1 for the Summer Term.
- Dental Hygiene Program applicants must apply by March 1.
- School of Engineering deadlines are July 31 for the fall term, October 31 for the spring term, and March 15 for the summer term.
- School of Education Movement Science applicants must apply by February 1 (fall term admission only). Applied Developmental Psychology applicants must apply by April 15 for fall term, and November 15 for spring term.
- School of Health and Rehabilitation Sciences programs are on rolling admissions. Students should apply after completing the prerequisite classes. Clinical Dietetics/Nutrition and Health Information Management and Rehabilitation Science offer fall term admission only. Communication Science and Emergency Medicine offer admission for all terms.
- School of Pharmacy supplemental application is due by March 1.
- School of Social Work applicants must apply by May 31 (fall term admission only).

Articulation Agreements

Articulation agreements are understandings between universities and colleges that allow students to transfer more speedily between institutions. The University of Pittsburgh has articulation agreements with a number of colleges, including Butler County Community College, Community College of Allegheny County, Community College of Beaver County, Harrisburg Area Community College, and Westmoreland County Community College. For a complete listing of articulation agreements, see www.pitt.edu/~academic/aa2001.htm.

The following specific programs also have articulation agreements: the College of Arts and Sciences and the Community College of Allegheny County (CCAC) system; the College of Business Administration and CCAC's Associate Degree in Business (0004) program; the School of Engineering and CCAC; the School of Health and Rehabilitation Sciences' (SHRS) Department of Clinical Dietetics and Nutrition and CCAC's Associate Degree Dietician Technical Program; and SHRS's Department of Health Information Management and CCAC's Medical Record Technician Programs. Contact the relevant schools and programs for further details.

Evaluation of Transfer Credits

Credits earned at another accredited institution are evaluated by the admitting school, which determines the number of advanced standing credits the transfer student will be awarded and the distribution of these credits in relation to the school's degree requirements and University policy. See the appropriate school's information in this bulletin.

Pitt Connection Transfer Scholarships

Pitt Connection Transfer Scholarships are available to transfer applicants to the College of Arts and Sciences for the fall term from the following community colleges with whom the University has articulation agreements: Butler County Community College, Community College of Allegheny County, Community College of Beaver County, Harrisburg Area Community College, and Westmoreland County Community College. Transfer applicants who wish to be considered must have a minimum 3.50 grade point average, must have completed either an associate degree or 60 credits by the fall term for which they will be enrolling, and must have submitted a complete application by May 1. Early application is recommended for scholarship consideration.

Deferred Admission

The University does not offer deferred admission for a subsequent term to admitted students not enrolling for the term of their admission. However, students wishing to have their applications re-reviewed for another term may submit a request in writing to the Office of Admissions and Financial Aid. Applications and supporting documentation for the prior academic cycle of fall, spring, and summer are only retained until early October of the next cycle. After that, students who wish to be re-reviewed for admission must submit a new application and supporting credentials.

Admitted students who enrolled at another institution must file a new transfer application with supporting credentials.

Re-admission

Students who previously attended the University of Pittsburgh, then attended other institutions, and wish to return to the University are considered transfer students and must re-apply following the guidelines for transfer students. The admitting school will evaluate the credits previously earned at the University of Pittsburgh along with credits earned elsewhere to determine the number of credits the transfer student will be allowed. Acceptable credits from institutions other than Pitt will appear on the student transcript as advanced standing credits and will not count in the QPA calculation. Credits earned at the University of Pittsburgh will appear as term entries on the student transcript, and courses accepted toward the degree will be used when calculating the student's QPA.

Former University of Pittsburgh students who have not attended another institution may be reinstated through the dean's office of the school in which they were previously enrolled.

■ INTERNATIONAL STUDENT ADMISSIONS

The admission of international students (University citizenship classification FS) is processed through the Office of International Services (OIS).

The Office of International Services

The Office of International Services (OIS) is under the Office of the Provost, Division of Student Affairs, and provides services not only to international students, but also to international faculty, researchers, and staff.

Prospective international undergraduate students interested in pursing a bachelor's degree (freshman or transfer) or special student status (guest student, postbaccalaureate, or second bachelor's degree) should contact OIS for application materials and admission information.

Admissions Contact Information

University of Pittsburgh
Office of International Services—Admissions Section
708 William Pitt Union
Pittsburgh, PA 15260
Phone: 412-624-7129
Fax: 412-624-7105
ois@pitt.edu
www.ois.pitt.edu/oisadmission.html

Application Procedures

The following application procedures are for all international students applying for admission to the College of Arts and Sciences, the College of Business Administration, the School of Engineering, the College of General Studies (see special note), or an upper level program in information science, health and rehabilitation sciences, education, nursing, or pharmacy (see special note).

To be considered for admission to the University of Pittsburgh, international students must complete and submit the International Undergraduate Student Information and Application form, together with the following:

1) Original or certified copies of all original language academic records, mark sheets, transcripts, and examination results from all secondary and postsecondary institutions attended or attending.

2) Certified English translations of all academic records, mark sheets, transcripts, and examination results from all secondary and postsecondary institutions attended or attending.

3) Certified copies of original certificates or diplomas of graduation or program completion.

4) Official results of the Test of English as a Foreign Language (TOEFL). The institutional code for the University of Pittsburgh is 2927.

5) A statement of purpose.

6) Official results of the Scholastic Aptitude Test (SAT) if applying for Freshman admission and graduating from a high school in the United States or a regionally accredited or European Council of International Schools (ECIS) recognized international school overseas. The institutional code for the University of Pittsburgh is 2927.

7) Application fee of $35.00 made payable by check or money order to the University of Pittsburgh.

8) Applicants for transfer admission must also submit complete course descriptions and/or examination syllabi with a completed application in order to be considered for transfer admission.

Application/Admission Deadlines

A completed application for admission (including results of the TOEFL and/or SAT) must be received in the Office of International Services by the following deadlines:

January 15—Applications for admission to the PharmD Program in the School of Pharmacy

February 1—All applications for fall (August) admission

March 1—All applications for summer (May) admission

October 1—All applications for spring (January) admission

Special Note Concerning the College of General Studies:

International applicants completing their secondary education (high school) when they apply for admission may not apply to the College of General Studies as a freshman. The College of General Studies is designed to provide opportunities for higher education to nontraditional students. Questions about admission to the College of General Studies may be addressed to the Office of International Services.

Special Note Concerning the PharmD Program in the School of Pharmacy:

International students applying for admission to the School of Pharmacy must apply to the school through the Pharmacy College Application Service (PharmCAS) at www.pharmcas.org. In addition and at the same time, they must submit their completed application for admission to the Office of International Services by the **January 15** deadline. The applications submitted by the January 15 deadline constitute only a preliminary application process. After an initial review by the Admissions Committee of the School of Pharmacy, candidates who meet the admission standards and requirements of the PharmD Program will be asked to complete a Supplemental School of Pharmacy Application. Please note that only prerequisites completed at a regionally accredited institution in the United States, or a recognized institution in Canada, will be considered to have met the PharmD prerequisites.

In addition, non-native English speaking applicants to the PharmD program are required to provide evidence of their proficiency in the English language by completing the Test of English as a Foreign Language (TOEFL) and the Michigan English Language Assessment Battery (MELAB), or the Test of Spoken English (TSE). The institutional code for the University of Pittsburgh is 2927, and the department code for pharmacy is 47.

English Language Proficiency

The undergraduate programs at the University of Pittsburgh accept only the official results of the Test of English as a Foreign Language (TOEFL) in determining adequate English language proficiency in making admission decisions. Results of the Institutional TOEFL testing program are not accepted. The minimum acceptable score on the TOEFL is 550 on the paper-based test or 213 on the computer-based test. Further information about the TOEFL may be obtained by contacting:

Test of English as a Foreign Language
P.O. Box 6151
Princeton, NJ 08541-6151
toefl@ets.org
www.toefl.org

Verification of English Language Proficiency

As part of the registration process, undergraduate students will be required to verify English language proficiency by sitting for a test of English language proficiency. The University of Pittsburgh uses the Michigan Test of English Language Proficiency (MTELP) for this purpose. Academic units and academic advisors will review the results of the MTELP before completing the registration for classes. Students whose MTELP results indicate that they would benefit from additional English study will be guided to register for an appropriate English as a Second Language course(s) offered through the English Language Institute (ELI).

■ COLLEGE OF GENERAL STUDIES ADMISSIONS

The College of General Studies (CGS) provides nontraditional students access to a wide variety of classes during the day, evening, and weekends at various on- and off-campus locations. Applicants must have been out of high school a minimum of three years. The college provides adults with the opportunity to enroll in academic courses toward a Bachelor of Arts or Bachelor of Science degree, to enroll in courses for personal enrichment or professional advancement, or to prepare for a graduate program. Application is made directly to the College of General Studies.

Admissions Contact Information

University of Pittsburgh
College of General Studies
Fourth Floor, Cathedral of Learning
Pittsburgh, PA 15260
Phone: 412-624-6600
Fax: 412-624-3836
cgs@pitt.edu
www.pitt.edu/~cgs

Admission Requirements

Applications for freshman admission into the College of General Studies are made directly to CGS rather than to the University's Office of Admissions and Financial Aid. The College of General Studies makes all admissions decisions on an individual basis. Freshmen must have been out of high school a minimum of three years to be considered for admission. For specifics on admission to this school, consult the College of General Studies section of this bulletin.

Application Procedures

To be considered for admission to the College of General Studies, an applicant must submit to the college a completed CGS application form, official transcripts from high school and any colleges attended, and a $35 nonrefundable application fee. The applicant also has the option of supplying a personal statement. Contact the college for an application and further information.

Articulation Agreements

The College of General Studies has articulation agreements with the Community College of Allegheny County, Butler County Community College, Community College of Beaver County, and Westmoreland County Community College. The college also has agreements with Harcum College, Community College of Philadelphia, Montgomery County Community College, and Westmoreland County Community College for its BS program in dental hygiene. Credit articulation is also available in the health services program based on licensure in specific health fields.

Scholarships

The John O. Bolvin Scholarships are academic scholarships available to students transferring to the College of General Studies. To be considered, a student must have at least a 3.00 grade point average and no fewer than 24 transferable credits.

■ DENTAL HYGIENE PROGRAM—SCHOOL OF DENTAL MEDICINE ADMISSIONS

The School of Dental Medicine offers a two-year (six consecutive terms) undergraduate certificate program in dental hygiene. The program is designed to fulfill the professional and academic requirements of the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs. Completion of the program prepares the student for licensure as a dental hygienist in most states. Application is made directly to the School of Dental Medicine (see the school's listing in the Schools and Academic Programs section of this bulletin for more information on the certificate program).

Admissions Contact Information

University of Pittsburgh
School of Dental Medicine
Dental Hygiene Program
B-82 Salk Hall
Pittsburgh, PA 15261-1937
412-648-8432
riccelli@pitt.edu
www.dental.pitt.edu/dental_hygiene/about.html

Admission Requirements

Applicants to the Dental Hygiene Program must fulfill the following criteria before applying: have a high school diploma or GED equivalent; have a minimum GPA of 2.50 at all academic institutions; have a minimum SAT I score of 1000; have successfully completed a chemistry course with a laboratory component; have successfully completed a biology course with laboratory component; and have successfully completed a college-level English composition course and a college-level introduction to sociology course.

Application Procedures

Applicants to the Dental Hygiene Program must submit the following items to the School of Dental Medicine by December 15 for early admissions review: a completed Dental Hygiene Program application, including the Personal Goal Statement; three professional/personal references; transcripts from all academic institutions attended; and SAT I scores. Once the application materials have been received, the applicant will be invited to attend a mandatory Applicant Seminar and a personal interview with the admissions committee.

Students who complete this program also have the option of going on to complete a Bachelor of Science in Dental Hygiene as offered by the College of General Studies (see CGS listing in the Schools and Academic Programs section of this bulletin for information on BS degree completion option).

■ SCHOOL OF NURSING—RN OPTIONS PROGRAM

The School of Nursing handles admissions to the Registered Nurse (RN) Options Program. The Registered Nurse (RN) Options Program allows the student who is already a registered nurse to complete either the bachelor's degree (RN-BSN) or the combined bachelor's and master's degree (RN-MSN) program in a timely and efficient manner. The program is tailored to the specific needs of the registered nurse adult learner who received initial training through a diploma or an associate degree program. Applicants should apply directly to the School of Nursing.

Admissions Contact Information

University of Pittsburgh
School of Nursing
239 Victoria Hall
Pittsburgh, PA 15261
412-624-4586
nursao@pitt.edu
www.nursing.pitt.edu

Admission Requirements

RN Options Program applicants must have successfully completed 50 prerequisite credits with a minimum 3.00 GPA. RN-MSN applicants should also have one year's work experience (additional experience may be required by some areas of specialization). All RN Options Program applicants must also have a current RN license. (See School of Nursing section of this bulletin for more specific information on requirements.)

Application Procedures

All RN Options Program applicants must submit a completed School of Nursing application, including a personal essay, all academic transcripts, and a resume or work history. Applicants to the RN-MSN option program may also need to submit scores on the Graduate Record Examination (GRE) or Miller Analogies Test (MAT) taken within the last 10 years, and are required to send three letters of professional reference, show evidence of completion of an approved statistics course within the past five years, and have a preadmission interview. Applicants who did not graduate from a National League for Nursing (NLN)-accredited program or who have not worked at least 1,000 hours in the past three years may need to submit test scores on four EXCELSIOR exams. (See the School of Nursing sec-

tion of this bulletin for more specific information, or contact the RN Options Program at 412-624-9170.)

Application Deadlines

Completed applications will be reviewed immediately when submitted, and applicants will be admitted for study in the term requested as long as space is available.

Applicants who are not already registered nurses but who wish to pursue a Bachelor of Science in Nursing must apply directly to the Office of Admissions and Financial Aid as either freshmen or transfer students. (See School of Nursing section of this bulletin for more details on the BS in nursing for both registered nurse [RN Options Program] applicants and regular applicants.)

■ TRANSFER WITHIN UNIVERSITY SCHOOLS AND REGIONAL CAMPUSES

Transfer between Schools

Students enrolled in an undergraduate school of the University who wish to transfer to another undergraduate school at the University should contact the school in which they are currently enrolled to request a transfer of their records. The student's records will be evaluated by the receiving school, which will then notify the student of acceptance or rejection.

Transfer between Campuses

Students enrolled in one campus of the University who wish to transfer to another campus of the University should contact the school at the campus in which they are currently enrolled to request a transfer of their records. The receiving schools will evaluate the records and notify students of acceptance or rejection.

■ REINSTATEMENT

Students who have left the University for one calendar year or more (whether of their own volition or as a result of a suspension) and who wish to continue their studies must apply for reinstatement through the school to which they were previously admitted.

■ SECOND DEGREE CANDIDATES

Previous Degree Earned Elsewhere

Students who have earned a previous undergraduate degree from an institution other than the University of Pittsburgh and wish to earn a second degree are treated as transfer students and must apply through the Office of Admissions and Financial Aid. (See Transfer Student Admissions.)

Previous Degree Earned at the University of Pittsburgh

Students who have earned an undergraduate degree from a school or campus of the University of Pittsburgh and who now wish to earn another bachelor's degree should apply as second degree students directly through the desired school. This process may vary with some upper-level division schools.

Each school determines the number of previously earned credits that will apply. A minimum of 30 new credits must be earned to receive a second degree. In addition to those general rules, the following schools also have these requirements:

- In the College of Arts and Sciences, a total of 18 non-CAS credits may be applied to a CAS degree.
- In the College of General Studies, at least half of the new credits taken must be in the student's major.

■ SPECIAL AND NONDEGREE ADMISSIONS

College in High School

The College in High School Program, through the College of Arts and Sciences, offers qualified area high school students the opportunity to earn college credits from the University during their regular school day. Courses in chemistry, communication, computer science, French, Latin, mathematics, physics, and statistics are offered. There is a registration process and fee for this program. For further information, contact the College in High School office at 412-624-6789 or online at www.pitt.edu/~chsp.

Postbaccalaureate Students

Some of the schools at the University will allow students who have already earned a bachelor's degree to take courses at the University as nondegree students. Students should contact the school in which they want to take classes for information on admission requirements.

Guest/Visiting Students

Guest students are those who are seeking a degree at another university but want to take courses at the University of Pittsburgh for credit with the expectation that the credits will transfer back to the student's home institution. Guest students must be in good academic standing and generally must apply at least a few weeks before the start of a given term. Contact the appropriate school for other admission requirements. Admission for the fall and spring terms is handled through the school. Summer admission is handled through the Office of University Summer Sessions.

Accelerated High School Students

High school students in their junior or senior year may be eligible to take one or more undergraduate courses on the University campus during the day while continuing their high school education. Students cannot take courses at the University that are available to them through their high school curriculum. Contact the College of Arts and Sciences Advising Center for admission information. Summer admission for accelerated high school students is handled through the Office of University Summer Sessions.

Summer Sessions

Contact the Office of University Summer Sessions at 412-383-8600 in Room 407 Cathedral of Learning, or see www.pitt.edu/~summer for more information on the following programs:

Summer Visiting Students
Students who are seeking a degree at another university, but want to take courses at the University of Pittsburgh for credit during the summer should apply through the Office of University Summer Sessions.

The College Course Program
The College Course Program provides the opportunity for high school students to take undergraduate courses. Please contact the Office of University Summer Sessions for information regarding application or special programs at www.pitt.edu/~summer or 412-383-8600.

Financial Issues: Tuition, Fees, Loans, and Scholarships ▼

■ TUITION

Tuition Deposit

Upon acceptance to the University, all students (except those admitted to the College of General Studies or to the School of Nursing's RN Options Program) must reserve their seats by forwarding a nonrefundable, nontransferrable enrollment fee/tuition deposit that will be applied toward their first term tuition. The amount of the deposit ranges from $200–$500. Instructions for payment will be specified in the admission letter.

Full Tuition

Undergraduate students enrolled for 12 to 18 credits are considered full-time and pay a flat tuition rate. Students enrolled for one to 11 credits are considered part-time and pay for individual credits. Students may exceed the 18-credit limit with written permission from the dean of their school, but they will be billed on a per-credit basis for each additional credit. During the summer term and summer sessions, all students are billed on a per-credit basis regardless of the number of credits taken.

Tuition rates are school specific. Students should refer to the tuition rate for the school in which they have enrolled. The University's tuition chart is online at www.ir.pitt.edu/tuition/tuithmpg.htm.

Residency/Reduced Tuition

Students who reside in the Commonwealth of Pennsylvania may be eligible for reduced tuition through state appropriations.

Eligibility is determined by criteria outlined in the *University of Pittsburgh Guidelines for Determining Eligibility for Reduced Tuition Rates* available in the Student Appeals Office in G-12 Thackeray Hall or online at www.bc.pitt.edu/residency.html.

Eligibility

Assessment of full tuition or reduced tuition is based on whether the student is a permanent resident of the Commonwealth of Pennsylvania. Full tuition is charged to nonresidents. A student who has lived in Pennsylvania for a continuous period of 12 months before enrollment in any institution of higher education in the state may be eligible for reduced tuition. The student must be a citizen of the United States or have an immigrant or permanent visa. For a student younger than 21, both the student and parent(s) or legal guardian(s) must meet the residency requirements for eligibility. Any admitted student may petition for reduced tuition rates by submitting convincing evidence for review by the Student Appeals Office.

Financial Obligation

If a student defaults on any financial obligation, the University of Pittsburgh has the right to withhold services and access to academic records (including, but not limited to, transcripts and diplomas) until repayment arrangements have been made that are satisfactory to the office or department to which the debt is owed.

Unpaid accounts may be referred to a collection agency, and/or the student may be subject to legal action. In either case, the student will be responsible for any and all expenses incurred, including attorney fees.

■ FEES

Mandatory

The following are mandatory fees assessed to students each term; current rates are available online at www.ir.pitt.edu/tuition/tuithmpg.htm:

- Student Activity Fee
- Student Health Fee
- Computer and Network Service Fee
- Security, Safety, and Transportation Fee

Special Service

These fees may be charged for University transactions that are processed beyond deadlines, due dates, and specified time limits. Special service fees are listed each term in the *Schedule of Classes*.

Course Fees

Certain courses have fees associated with enrollment in the course. These courses are identified in the *Schedule of Classes* and *Course Descriptions*. Course fee information is also available online at www.pitt.edu/~registrar/crinpgcrsinfo.htm.

■ PAYMENT

University billing statements may be paid by cash, check, electronic check (e-check), or credit card; however, cash cannot be mailed or dropped into the Student Payment Center depository. The University accepts Discover, MasterCard, and Visa credit card payments in person, by mail, or telephone at 412-624-7520. Tuition-related payments and room and board payments may be mailed to: University of Pittsburgh, P.O. Box 371998, Pittsburgh, PA 15250-7998. Payment may be made in person at the Student Payment Center, G-7 Thackeray Hall. Credit card and e-check payments can be made online at http://student-info.pitt.edu.

Due dates are clearly designated on billing statements. Failure to pay the amount due (or to arrange a deferred tuition payment plan by the due date) will result in a late payment fee for students without a valid deferral.

Optional Payment Plan

Students who do not have an active financial hold are eligible to participate in the optional payment plan if the total amount due on their statement is $300 or more.

If eligible, students may elect to participate in the optional payment plan by paying the "Payment Plan Due" amount that will be printed on the statement. This amount includes a $40 service fee when financing $1,000 or more, or a $20 fee when financing less than $1,000. The service fee is assessed only once per term of participation in the optional payment plan. The number of installments is determined by the month students receive their first statement for a new term. That number is assigned and is used in calculating the "Payment Plan Due" amount. For more information, see www.bc.pitt.edu/optional_payment.html.

Deferrals

Payment of all, or a portion, of the amount due statement may be deferred when expected sources of payment are not included on a statement. Documentation of the expected source of payment must be provided before the due date indicated on the statement. The documentation and, if applicable, payment of the difference between the amount due and the deferred amount should be included in the return envelope provided with the statement.

Some examples of expected sources of payment typically not included on a statement are payments authorized by third parties, scholarships awarded by departments, agencies or organizations other than the University's Office of Admissions and Financial Aid, and financial aid that will be awarded in the future by the University's Office of Admissions and Financial Aid.

■ FINANCIAL AID

Financial aid application procedures are outlined in the University of Pittsburgh Admissions and Financial Aid Application, the *Financial Aid Booklet*, and online at www.pitt.edu/~oafa. Information on different types of aid and how they are awarded is also available at this site.

Scholarships

Scholarships from the University of Pittsburgh are a form of merit-based financial aid. Outside scholarships are also applied toward tuition and other mandatory educational expenses. Scholarships do not have to be repaid.

Grants

Grants from the University and outside sources may be considered need-based financial aid. Normally, grants do not have to be repaid.

Federal Work Study Program

The Federal Work Study Program is available to eligible students. It is a form of financial aid, however, it is not applied directly to tuition payment. Students who are ineligible for the Federal Work Study Program may check with Career Services (224 William Pitt Union) for other job opportunities or check www.placement.pitt.edu.

Loans

After a family's expected financial contribution has been determined and scholarships and grants have been awarded, a student's financial aid package may be supplemented with self-help aid in the form of loans.

■ PAYMENT ADJUSTMENTS

Check and Credit Card Adjustments

Adjustments in charges can occur when students add or drop courses. If a refund is due as a result, and if payment was made by check, the refund will be sent directly to the student. If payment was made by credit card, the University is required to make the adjustments to the payer's credit card account, and the credit will be reflected on the Discover, MasterCard, or Visa monthly statement.

Title IV Refund Policy

Adjustments to tuition charges resulting from official resignations are based on the effective date of resignation and are in accordance with the federally mandated calculation. The calculation is based on the period of enrollment completed. That percentage is computed by dividing the total number of calendar days in the term into the number of calendar days completed as of the date of student notification. The percentage of Title IV assistance to which the student is entitled (or which the student has "earned") is equal to this percentage of the term completed, up to 60 percent. If the resignation occurs after 60 percent of the term is completed, the percentage is equal to 100 percent.

The amount of Title IV aid that must be returned is based on the percentage of unearned aid. That percentage is computed by subtracting earned aid from 100 percent. The University is required to return the lesser of (1) the unearned aid percentage applied to institutional charges or (2) the unearned aid percentage applied to the total Title IV aid received.

Students are required to return the difference between the amount of unearned aid and the amount returned by the University. If students (or parents in the case of PLUS loans) are required to return a portion or all of their loan proceeds, the calculated amount is to be repaid according to the loan's terms. Students must return only half the amount of grant funds calculated.

Funds are returned to the following Title IV sources in order of priority:

1. Unsubsidized FFEL loans
2. Subsidized FFEL loans
3. Federal Perkins loans
4. FFEL PLUS loans
5. Federal Pell Grants
6. Federal SEOG
7. Other Title IV assistance for which a return of funds is required
8. Other federal, state, private, or institutional financial assistance
9. Students

CAMPUS FACILITIES AND STUDENT SERVICES

■ ACADEMIC RESOURCES

A strong infrastructure of services is key to ensuring academic success at any institution of higher learning. The University of Pittsburgh has a wide variety of academic resources that provide that infrastructure to aid students with their research, computing, tutoring, and advising needs.

University Library System

271 Hillman Library
412-648-7710
feedback@library.pitt.edu
www.library.pitt.edu

The University Library System (ULS) of the University of Pittsburgh is composed of 18 libraries located on the Pittsburgh and four regional campuses, the Allegheny Observatory Library, and a large multipurpose building in Point Breeze. The ULS is a member of the Association of Research Libraries, the NorthEast Research Libraries Consortium (Center for Research Libraries), the Oakland Library Consortium, Pennsylvania Area Library Network, and the Pennsylvania Academic Library Consortium Inc.

Other University of Pittsburgh libraries include the Barco Law Library and the Health Sciences Library System, both in Pittsburgh.

In fiscal year 2002, the University's collections totaled more than 4.4 million volumes, 4 million pieces of microform, and 37,000 journal subscriptions. The University of Pittsburgh libraries and collections provide abundant information and services to the faculty, students, staff, administrators, and researchers of the University.

Under the administration of the director of the University Library System (ULS), the ULS includes the following libraries and collections: Hillman (main), African-American, Archives of Industrial Society, Buhl (social work), East Asian, Special Collections, Government Publications Collection, University Archives, Allegheny Observatory, Center for American Music, Chemistry, Computer Science, Darlington Memorial (American history), Engineering, Fine Arts, Information Sciences, Joseph M. Katz Graduate School of Business, Langley (biological sciences, neuroscience, psychology), Mathematics, Music, Physics, and Public and International Affairs/Economics.

The Hillman Library is the largest library facility, with seating for 1,530 users. It offers an open stack arrangement and an extensive range of library services. In addition to the main collection, which is composed primarily of humanities and social sciences subject areas, the Hillman Library comprises seven other libraries and collections, maps, national and international newspapers, and microform facilities.

The Health Sciences Library System primarily serves the health sciences schools and the University of Pittsburgh Medical Center (UPMC). This library system includes the Bergman Library of Montefiore University Hospital, Falk Library, the Nursing Collection in the Learning Resources Center of the School of Nursing, and the Western Psychiatric Institute and Clinic Library. PITTCAT is the University of Pittsburgh's online library catalog, offering author, title, subject, and keyword access to materials in all University libraries.

PITTCAT currently contains bibliographic holdings and circulation information for more than three million titles, representing most of the book and periodical collections in all University libraries. In addition, the University libraries provide access to more than 400 commercial databases including periodical indexing, encyclopedias and other reference works, full text databases, and more than 6,000 online journals. PITTCAT and the other databases are available through the ULS Web site at www.library.pitt.edu.

Computing Services and Systems Development

728 Cathedral of Learning
412-624-HELP (4357)
www.technology.pitt.edu

University of Pittsburgh students have access to the latest information technology resources provided by Computing Services and Systems Development. An overview of these services is described below. Please visit the Information Technology Web site (www.technology.pitt.edu) or contact the Help Desk, 412-624-HELP (4357), for assistance.

Technology Help Desk

The Technology Help Desk, which is staffed around the clock, serves as the single point of contact for information technology services at the University of Pittsburgh. Students, faculty, and staff can contact the Technology Help Desk at 412-624-HELP (4357) regarding computing questions, including University computer accounts, e-mail, hardware, software, networking, ResNet services, computing labs, or other information technology-related services.

Campus Computing Labs

Computing Services and Systems Development (CSSD) operates the computer labs on the Pittsburgh campus. Each lab is equipped with Windows, Macintosh, and Unix computers, self-contained flatbed scanners, media stations (providing CD mastering, image and digital video editing capability), color printers, and student consulting services. A productivity computing lab at B-40 Alumni Hall features 30 Windows computers equipped with software to assist students working on term papers and projects as well as 20 prototype Linux machines with comparable productivity software packages. The David Lawrence Hall lab is open 24 hours, seven days a week. The Benedum and Sutherland Hall labs are open 24 hours on weekdays. Lab hours are

adjusted during University breaks; check the Web for hours during University holidays. The computing labs are located at 1077 Benedum Hall, G-27/G-62 Cathedral of Learning, 1E01 Wesley W. Posvar Hall, 112 Hillman Library, 230 David Lawrence Hall, and C114 Sutherland Hall.

E-mail and University Computer Accounts
All University of Pittsburgh students receive a University Computer Account upon enrollment. The computer account username serves as the student's e-mail address. Account management tools are available online at www.technology.pitt.edu that permit users to monitor account quotas, set e-mail forwarding addresses, and change passwords. The IMAP e-mail service is the University's centrally-supported e-mail system that is compatible with the Mulberry, Netscape communicator, and Outlook Express client programs that are available to students on the student toolkit CD.

E-mail Kiosks
More than 100 e-mail kiosks are distributed throughout the Pittsburgh campus to provide convenient locations for students to check their e-mail or browse the Web between classes and activities. Current locations include the Benedum Hall and Posvar Hall computing labs and galleria areas, the William Pitt Union lobby, the Cathedral of Learning, Litchfield Towers lobby, and Bellefield Hall's second floor lobby.

Wireless Network Access
Wireless network access for students is available in designated public areas on campus including the Cathedral of Learning Commons Room, second floor of Posvar Hall, Petersen Events Center food court/study area, and Hillman Library. This service lets students use their laptop computers to connect to PittNet and the Internet. Any student with a laptop computer and a compatible Wireless Network PC Card can use Wireless PittNet.

Student Portal
The Student Portal at www.my.pitt.edu provides students with a single point of Web access where they can build their own Web page to view the information they will use most often such as news, weather, e-mail, and Internet search programs. The Portal also provides access to campus resources such as student services, Information Technology, and the University Library System.

Residential Networking (ResNet) Program
Students living in University residence halls have access to high-speed Ethernet network connections that provide access to services on the University of Pittsburgh network (PittNet) and the Internet. The ResNet program provides on-site support for residence hall students with computing questions and problems including Ethernet card installation and configuration, troubleshooting network connection problems, computer viruses, and more. Resident students can schedule appointments with ResNet by contacting the Technology Help Desk at 412-624-HELP (4357).

Student Toolkit CD/Student Software
CSSD provides the student toolkit CD, which contains Web browser software and plug-ins, antivirus software, and Internet connection utilities to students at no cost. All full-time students are also eligible to receive a suite of Microsoft application and operating system products at no cost, including the latest versions of Microsoft Office, Windows Professional, Visual Studio, and Office for Macintosh. In addition, Mathematica, Personal Oracle, MathCAD, Allegro LISP, SAS, SPSS, S-Plus, and EndNote are available at a nominal charge.

Training
CSSD offers free, noncredit computer and application training sessions for students. These QuickStart sessions cover a variety of topics including operating systems, software applications, e-mail, Web authoring tools, and more. Self-paced, Web-based training topics are also available to students online on selected applications including Microsoft Windows and Office applications.

Academic Support Center

311 William Pitt Union
412-648-7920
www.pitt.edu/~asc

The Academic Support Center (ASC) offers students help in study skills, tutoring, peer mentoring, time management, and test-taking skills. The ASC also maintains a tutor directory, which is a campus-wide listing of tutors and assistance provided by departments, schools, and Special Support Services. The Math Assistance Center (MAC), which is a part of the ASC, provides assistance to students enrolled in first-level algebra and trigonometry courses through faculty and undergraduate teaching assistant (UTA) office hours. The MAC is in 322 Thackeray Hall.

Writing Center

M-2 Thaw Hall
412-624-6556
www.english.pitt.edu/resources/writecent.html

The Writing Center, part of the University's Department of English, offers one-on-one assistance to students who need help with their writing in any class. Consultants will help with any aspect of the writing process including development, organization, revision, grammar, and proofreading but will not edit or write text. Students may drop in any time, but it is best to call for an appointment. The Writing Center's hours vary from term to term. For additional information, scheduled hours, or to make an appointment, call 412-624-6556.

English Language Institute

2816 Cathedral of Learning
412-624-5901

The English Language Institute (ELI) provides intensive instruction in English for people whose native language is not English and who need to meet proficiency requirements to enter a university. Courses are noncredit and cover reading, writing, listening, speaking, and grammar. The institute

offers classes in the Test of English as a Foreign Language (TOEFL) to students already enrolled in the institute to help them prepare for the test.

Admission to the ELI does not include admission to the University of Pittsburgh. The University of Pittsburgh requires a 550 on the TOEFL for admission to most undergraduate programs. Students who wish to be considered for admission, but who have not achieved 550 on the TOEFL may request to have their academic qualifications evaluated in advance. This early evaluation assures qualified students that they can register for academic courses when they meet the English proficiency requirement. Instructions for this procedure are on the ELI application form and Web site. The staff of the ELI is available to advise students about applications to colleges and universities.

For more information about the English Language Institute, call 412-624-5901, write to elipitt@pitt.edu, or visit our Web site at www.eli.pitt.edu.

■ HOUSING

The University provides a variety of housing options and support services to students, including Residence Life and the Housing Resource Center. Students may choose to live on campus in University-owned housing or in off-campus housing.

Housing Application Process

Incoming Students

As part of the admissions process, the University provides entering freshmen with a three-year housing guarantee, provided they

- Have been admitted through the Office of Admissions and Financial Aid and their tuition deposit has been received by May 1 and
- Have submitted their Housing/Dining Services Application, contract, and deposit by the due date.

Returning Guaranteed Students

Students who have lived in University housing during their first year with a housing "guarantee" are guaranteed housing for their second and third years at the University provided that they

- Maintain their status as current and continuing full-time undergraduate students in each successive year and
- Currently reside in University Housing and meet all housing requirements (application, contract, deposit, and due date) in each successive year.

The housing application process takes place each spring and is administered by Panther Central, which is located in the Litchfield Towers main lobby. For all housing information, stop in or call Panther Central at 412-648-1100 or visit www.pc.pitt.edu/hs.html.

Residence Life

The manager of Residence Life is responsible for resident assistants and resident directors, who work with students as their live-in advisors and resource persons within the residence halls. The office also advises the Resident Student Association (RSA), the Residence Life governing body. The staff offers a variety of educational and social activities within the residence halls, addresses student counseling and conduct issues, and provides other assistance to residents on matters affecting the quality of life in the residence halls.

Residence Life also offers students opportunities to live in focused living learning communities, which are linked with specific academic departments. Residence Life staff provide personal assistance 24 hours a day, seven days a week. For more information, students should contact the resident director in their hall, visit or call the office in 203 Bruce Hall (412-648-1200/1201), or go to www.reslife.pitt.edu.

Housing Resource Center

The Housing Resource Center provides assistance to students, staff, and faculty in identifying, renting, leasing, or purchasing suitable living accommodations. The Housing Resource Center provides the following: information on University-owned apartments, an apartment roommate matching service, a sublet service, maps of Pittsburgh and surrounding areas, rental tips, campus shuttle schedules, free local telephone service to contact landlords, and listings of apartments inspected and approved by the City of Pittsburgh. Call 412-624-6998, visit the office at 127 North Bellefield Street, or go to www.pitt.edu/~property/hrc.html.

■ STUDENT RESOURCES

The University is committed to providing a high quality of life for its students and toward that end supports a variety of offices and activities designed to aid students in realizing their potential and having a fulfilling on-campus life.

Affirmative Action

In addition to its work with developing, implementing, and monitoring the University's affirmative action program, the Office of Affirmative Action is responsible for receiving, investigating, and mediating complaints from any members of the University community who believe they have been discriminated against or harassed on the basis of their race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, disability, or status as a disabled veteran or a veteran of the Vietnam era. (Note: Reserve Officer Training Corps [ROTC] programs discriminate against students on the basis of sexual orientation and therefore are not in compliance with the University's nondiscrimination policy.) Individuals may request information and advice anonymously if they wish. The privacy of all parties will be respected. The office is in 901 William Pitt Union; the phone number is 412-648-7860.

Athletics

The University offers a variety of opportunities for students to participate in athletics on the varsity, intramural, and club

levels, as well as on-campus facilities for group sports and individual exercise.

Varsity Sports
The University offers 10 sports for men (baseball, basketball, cross country, diving, football, soccer, softball, swimming, indoor and outdoor track, and wrestling) and nine sports for women (basketball, cross country, diving, gymnastics, soccer, swimming, tennis, indoor and outdoor track, and volleyball) at the varsity level as well as cheerleading activities. For more information about these sports and contact numbers for varsity coaches, call 412-648-8200 or visit the Pittsburgh Panthers Web site at www.pittsburghpanthers.com.

Intramural and Club Sports
New outdoor playing fields are available behind the renovated Cost Sports Center. Call 412-648-8210 for more information or visit the intramural program's Web site at www.education.pitt.edu/intramurals.

Sports clubs offer participation in sports ranging from bowling to rowing. Contact the Student Organization Resource Center (119 William Pitt Union, 412-624-7116) for more information on sports clubs or visit the Web site at www.sorc.pitt.edu.

Sports Facilities
There are a variety of sports facilities available for use by individuals and groups. Fitness centers are available in Litchfield Towers, Schenley Quadrangle, Lothrop Hall, Sutherland Hall, Bellefield Hall, Trees Hall, and the Baierl Student Recreation Center in the Petersen Events Center. Gymnasiums and swimming pools are available in Trees Hall and Bellefield Hall. The Baierl Student Recreation Center has two convertible racquetball/squash courts and four racquetball courts. In addition, eight squash courts are available in the Fitzgerald Field House, and soccer fields are available through the Department of Athletics.

Visit www.education.pitt.edu/intramurals for a virtual tour of the facilities, reservation information, and hours of operation.

Book Centers

The University owns and operates two bookstores on campus: The Book Center and The Health Book Center. The Book Center, at 4000 Fifth Avenue, carries textbooks for most University courses, as well as a general book selection, school supplies, and sundries such as art supplies, stationery, greeting cards, and calendars. Call 412-648-1455 or visit www.pitt.edu/~bookctr for more information. The Health Book Center, at 3527 Forbes Avenue, carries all course books for the Schools of Medicine, Dental Medicine, Health and Rehabilitation Sciences, Nursing, Pharmacy, and Public Health. Call 412-648-8915 or visit www.pitt.edu/~healthbc for more information.

The University Counseling Center

The University Counseling Center, in 334 William Pitt Union, is staffed with psychologists, social workers, and counselors who provide a variety of services for undergraduate and graduate students. All services of the center are accredited by the International Association of Counseling Services and are confidential, free, and voluntary.

Students come to the center seeking assistance for relationship problems, anxiety, depression, stress, concerns about academic progress or direction, and for assistance in planning graduate study or a career. Special services such as sexual assault counseling and advocacy are provided through the center's Office of Sexual Assault Services. In addition, drug and alcohol assessments and counseling are provided at the center.

For information about the center and its services, see www.counseling.pitt.edu. To schedule an appointment, call 412-648-7930.

Sexual Assault Services/ University Counseling

The Office of Sexual Assault Services provides individual and group counseling designed to alleviate the trauma associated with sexual victimization. Emergency medical, legal, and police support is provided. Students are assisted in negotiating course schedule or room changes and in obtaining medical, legal, and counseling resources available to them both within the University and in local communities.

The Office of Sexual Assault Services also sponsors Peers 2 Peers. This is a volunteer student outreach program whose mission is to create an awareness of the dynamics of sexual assault on the Pittsburgh campus, promote effective communication, and prevent sexual victimization through educational programming. For more information, call 412-648-7856, 412-648-7930, visit 334 William Pitt Union, or see www.pitt.edu/~saserv.

Disability Resources and Services

The Office of Disability Resources and Services (DRS) provides a broad range of support services to assist students with disabilities. Services include, but are not limited to, tape-recorded textbooks, sign language interpreters, adaptive computer technology, Braille translation, and nonstandard exam arrangements. DRS can also assist students with accessibility to campus housing and transportation. Contact DRS at 412-648-7890 or 412-383-1355 (TTY) in 216 William Pitt Union or see www.drs.pitt.edu for more information.

Dining Services

The Department of Dining Services offers students a variety of dining options. All student dining services are coordinated and administered through Panther Central, which is located in the Litchfield Towers main lobby. All students residing in residence halls are required to purchase a meal plan. Students living in University apartment-style accommodations may purchase a meal plan, but are not required to do so. Students can select from a variety of meal plans, each offering different combinations of meal blocks and dining dollars. The Department of Dining Services invites you to check out all of our dining options across campus.

Major Residence Hall Dining Facilities:

- The Marketplace in Litchfield Towers
- Jock's Place in Sutherland Hall

Retail Operations:

- Eddie's in Litchfield Towers
- Schenley Café in William Pitt Union
- Cathedral Café in the Cathedral of Learning
- Petersen Events Center Food Court
- Starbucks Coffee Carts across campus
- Einstein Bros. Bagels in Posvar Hall and Benedum Hall

For all dining information, stop in or call Panther Central at 412-648-1100 or visit www.pc.pitt.edu/ds.html.

Health Care and Student Health Service

All full-time students pay a student health fee each term to cover a variety of services at the Student Health Service in suite 500 of the Medical Arts Building, 3708 Fifth Avenue, Pittsburgh, PA 15213. The Student Health Service is a multiservice healthcare facility that offers outpatient clinical services, gynecology, and comprehensive health education programs. Call 412-383-1800 or visit www.pitt.edu/~studhlth for more information.

The University of Pittsburgh Pharmacy, in the same suite as the Student Health Service, offers over-the-counter and prescription medicines, often at lower prices than available elsewhere. Call 412-383-1850 or visit www.pitt.edu/~studhlth/pharmacy.html for more information.

Students should have health insurance to protect themselves in the event of illness or injury. A direct-pay medical insurance plan is available to students through University health plans. The plan is designed to provide insurance benefits for services not offered at the Student Health Service as well as for hospitalization and emergency care. Applications and product information are available at the Student Health Service.

ID Cards

Every student, faculty, and staff member at the University must obtain an ID card from Panther Central, located in the Litchfield Towers main lobby. Student IDs, or "Panther Cards," are used to access residence halls (your assigned residence only), meal plan, athletic events, campus shuttle buses, recreational facilities (within your residence hall, Bellefield Hall, Trees Hall, and the Baierl Student Recreation Center), Student Health Services, computer labs and Pitt Program Council events. The Panther Card also affords access to off-campus benefits such as free admission to some Pittsburgh cultural facilities. In addition, the Panther Card offers access to Panther Funds at local participating merchants. For all Panther Card information, stop in or call Panther Central at 412-648-1100 or visit www.pc.pitt.edu/pc.html.

International Services

The Office of International Services (OIS) serves as a center for general assistance and services on all matters relevant to foreign students and scholars. Some of the services provided by the office include evaluation of academic credentials and orientation for international students; counseling on personal, social, and financial matters; and information and advising on regulations of the Immigration and Naturalization Service and other government agencies. For information on admission to the University, see the International Student Admissions section. For more information on OIS, call 412-624-7120, visit 708 William Pitt Union, or visit www.pitt.edu/~ois.

Parking and Transportation

The University provides a variety of parking and transportation services, both on and off campus, some of which are detailed below. For more complete information, call the University Department of Parking, Transportation, and Services at 412-624-8612 or see www.pts.pitt.edu.

Parking Services

Student parking is available year-round. The Parking Office provides several parking options to meet the different schedules and needs of students. Commuter parking is available daily on a cash basis or by the term in selected facilities by permit only. Resident student permits are available for full-time students residing in one of the University residence halls operated through the Housing Office. Evening permits are available for parking after 4 p.m. weekdays and all day on weekends, except during special events, in many University lots. For more information, contact the Parking Services, 204 Brackenridge Hall, 412-624-4034.

Ridesharing

Daily commuter students can save money by sharing a ride with other students. A free, computerized matching service is available to find names and phone numbers of others interested in carpooling. Call 412-624-0687 for more information.

Public Transportation

Students may ride any Port Authority bus, incline, or light-rail train within Allegheny County for free by showing their valid University ID card. The Department of Parking, Transportation, and Services, at 3525 Forbes Avenue, maintains all Port Authority rider information, including maps, schedules, and routes to facilitate the use of public transit. Port Authority bus schedules are also available in the lobby of the William Pitt Union and the Parking Office in Brackenridge Hall.

Pittsburgh Campus Transportation System

University of Pittsburgh students may ride all of the Pitt buses and shuttles for free by showing a valid University ID. In addition, students are permitted two guest riders (space permitting). Buses and shuttles normally have a 20- or 30- minute route. Detailed maps and time schedules are available at the William Pitt Union information desk, Parking Services in 204 Brackenridge Hall, and the Department of Parking, Transportation, and Services at 3525 Forbes Avenue.

SafeRider

A nighttime van service called SafeRider is available during the evening and early morning hours to transport you from

one campus building to another, from local residences to campus buildings, and from campus buildings to local residences. SafeRider operates during the following hours:

Sunday–Wednesday and Holiday	7 p.m.–3 a.m.
Thursday–Saturday	7 p.m.–5 a.m.

For service, call the dispatcher at 412-648-CALL (2255) during these times. You will need to provide the following information when you call: your name, pick-up location and the telephone number at the pick-up location, destination, number of individuals with you, and student ID number. Consult the SafeRider brochure for additional information concerning policies and procedures.

Bicycle Registration Program
Registration of bicycles is recommended as a deterrent to theft, to help in the identification of lost or stolen bicycles, and to help better accommodate cyclists at the University. Registration is easy, and it is free! You may register bikes at www.pts.pitt.edu/Rideshar/bicreg.htm. Bicycle parking maps, regulations, and safety tips are also available. Call the Ridesharing Office for more information at 412-624-0687.

Bicycle lockers are available at two convenient locations. The locker totally encloses the bicycle, protecting it from rain and snow. There is also room to store a helmet, riding shoes, and other accessories. Lockers can be rented by the term.

Career Services

Career Services helps students discover and further their career aspirations through an on-campus recruitment program; career counseling sessions; programs; special events; and the posting of full-time employment, part-time employment, internships, and summer job opportunities (both online and in the Career Services office). In addition, the office sponsors job fairs, including the Opportunities Job Fair, the Pittsburgh Education Recruiting Consortium (PERC), and Tech Day.

The office is also an integral part of the Pitt Pathway, a development process that guides students through a four-stage career path: discovering self, exploring careers, gaining experience, and implementing a job search plan. For more complete information on the programs offered by Career Services, call 412-648-7130, stop by 224 William Pitt Union, or see www.careers.pitt.edu.

Department of Public Safety

Public safety is a shared responsibility of everyone who works, studies, or visits campus. Through programs of education, information, and the collaboration of many departments, the mission of the Department of Public Safety is to promote an environment that is free from safety distractions so that members of the community may learn, teach, and conduct research. The department welcomes the opportunity to serve as well as receive suggestions from all members of our community. Contact the department in the office at L-2 Tower A lobby or call 412-648-SAFE (7233).

Police Department

The University of Pittsburgh Police Department provides police and security services to the University community. For emergency calls, dial 811 from on-campus phones or 412-624-2121 from off-campus phones. The University of Pittsburgh Police Department's main headquarters is in G1N30 Wesley W. Posvar Hall. For general information calls (nonemergency), dial 412-624-4040 or see www.pitt.edu/~police.

Student Government

Undergraduates at the University are represented by two primary governing bodies, the Student Government Board and the College of General Studies (CGS) Student Government Council.

The Student Government Board (SGB)
The Student Government Board (SGB) is an elected body of nine students that exists to promote the concerns, interests, needs, and welfare of non-College of General Studies undergraduates at the Pittsburgh campus of the University of Pittsburgh. As the governing body for students, SGB serves as the fundamental mode of communication among the University faculty, administration, staff, and student body and also disburses the student activity fees to various University clubs and organizations.

SGB makes appointments to University-wide committees and also oversees SGB committees, whose membership is open to all undergraduates. These SGB committees include academic affairs, allocations, community relations, elections, environmental, freshman affairs, government relations, judicial, multicultural, or any existing task force. The SGB meets weekly during the fall and spring terms. For more information, call 412-648-7970, visit 639 William Pitt Union, or see www.pitt.edu/~sgb.

The CGS Student Government Council
The CGS Student Government Council is composed of five elected members who represent the interests of students in the College of General Studies. The Council coordinates a variety of student programs and services and allocates the CGS student activity fee. In addition to the five members of the Council, there are five divisions that help carry out the Council's business: Budget and Finance, Judicial Affairs, First Degree, Marketing and Advertising, and Student Programs. For more information, call 412-648-7895, visit 627 William Pitt Union, or see www.pitt.edu/~cgssg.

PITT ARTS

Each year, 22,000 Pitt students experience the power of the visual and performing arts in Pittsburgh through the PITT ARTS program, which sponsors 110 free student outings per year, including trips to the symphony, cinema, opera, ballet, theater, and museums. Students may also use their student IDs to visit the Carnegie Museums of Arts and Natural History, Phipps Conservatory and Botanical Gardens, and The Andy Warhol Museum at no cost. Visit the PITT ARTS Web site at www.pitt.edu/~pittarts to find a listing of current arts goings-on in Pittsburgh and on campus, and explore the cheap seats page to find out about deeply discounted tickets, sold right in the William Pitt Union, to local arts organizations.

Pitt Program Council

A variety of entertainment and educational activities are planned each year by the student committees of the Pitt Program Council (PPC), the central programming organization on campus. Programs include lectures, travel packages, weekend films, miniseminars, recreational tournaments, annual homecoming activities, and art gallery exhibits. New members are always welcome. For more information, contact the Pitt Program Council at 412-648-7900, or visit www.pitt.edu/~ppc.

Student Media

Several forms of student-produced media report on news and current events of interest to Pitt students and provide training to students interested in media work and writing. Publications and broadcast media include *The Pitt News*, published Monday through Friday; *Panther Prints*, the official memory book; and WPTS Radio, which provides innovative music programming and coverage of campus events and sports.

Student Organizations

More than 250 certified student organizations provide a myriad of opportunities for extracurricular activity. In addition to government, media, publications, programming, fraternity, sorority, and honor societies, there are clubs for sports, recreation, performing arts, politics, religion, service, professional and academic pursuits, ethnic and cultural enrichment, and many other specialized interests. Students may also participate in organizations, such as the Black Action Society, which represents the interest of specific student groups. A complete list of certified student organizations is available from the Student Organization Resource Center, 119 William Pitt Union, 412-624-7116, or see www.sorc.pitt.edu.

Student Volunteer Outreach

The Student Volunteer Outreach (SVO) promotes, supports, and provides opportunities for students to participate in community service and service-learning activities ranging from one-time service projects and alternative break projects to internships, ongoing volunteer opportunities, and global service-learning courses and programs. It also sponsors annual projects and events including the SVO/SGB Pittsburgh Project, Pitt Partnership for Food, and the Agency Fair for student volunteers. The SVO is in Room 119 and on the 9th floor of the William Pitt Union, or at www.svo.pitt.edu.

University Child Development Center

The University Child Development Center is a developmental child care facility for children between the ages of 6 weeks and 5 years. The center is open to children of University students, faculty, and staff. The children are free to select activities from an age-appropriate environment prepared by the teaching staff. The environment allows the child to practice previously learned skills and challenges the child to develop new psychosocial, cognitive, and motor skills in a relaxed, nurturing atmosphere. The center is at 635 Clyde Street and is open from 7 a.m. to 6 p.m. Monday through Friday. For more information, call 412-383-2100 or see www.hr.pitt.edu/ucdc.

Veterans Services

The staff of the Office of Veterans Services assists veterans, war orphans, and veterans' dependents in obtaining and using their VA educational benefits. In addition to these services, the office implements the Veterans Affairs (VA) work study program. The staff serves as the veterans' representative to the University, the Veterans Administration, and other related agencies. The office is located in the Office of the University Registrar in G-3 Thackeray Hall. Call 412-648-7884 or see www.pitt.edu/~registrar/vetpgvetserv.htm for more information.

William Pitt Union

The William Pitt Union, built just more than 100 years ago and located across Bigelow Boulevard from the Cathedral of Learning, serves as the focal point for campus activities, student organizations, and the Division of Student Affairs. The union features a recreation center, arcade, dining service, information service, art gallery, TV room, dance studio, lounges, meeting rooms, student organization offices, ticket office, dining rooms, and several multi-use spaces for programs. To reach the union's information desk, call 412-648-7815.

General Academic Regulations

■ ADVISING

Academic advising is a key part of every undergraduate's experience at the University of Pittsburgh. Academic advisors help a student determine the appropriate academic path to further the student's educational and career goals. To be a success, the advising process must work both ways: the advisor will be there to help when the student needs it, and the student must actively seek out an advisor for help. Before signing up for classes each term, students meet with their advisors. Though each school may have different advising requirements, students are generally required to meet with their advisor at least two times per term—for an advising appointment and a subsequent registration appointment. The online *Schedule of Classes* can be a useful advising tool (see www.pitt.edu/~srfsweb/crinpgcrsinfo.htm). Consult with the individual school for school-specific advising services.

■ ALLOWABLE CREDITS (CREDIT AND COURSE LIMITATIONS)

There are certain limitations on credits, other than those earned as part of regular undergraduate courses taken at the University, that may be applied toward a degree. Those limitations are detailed below.

Advanced Standing Credits

Each school determines whether and under what circumstances the advanced standing credits listed below will be awarded toward a University of Pittsburgh degree or certificate offered by the school. Contact the individual schools for details.

Transfer Credit

Credit may be earned at other accredited institutions and accepted for transfer to the University of Pittsburgh, subject to University policy and individual school requirements.

Advanced Placement

Credits may be earned toward a University of Pittsburgh degree or certificate through standardized examinations such as the College-Level Examination Program (CLEP), Occupational Competency, Excelsior College Examination Program, and Advanced Placement (AP) Exams. In addition, some schools give credit for the International Baccalaureate Higher-level Examinations. Credit is given for the following AP Exam scores:

Advanced Placement Credit

EXAM CODE	DESCRIPTION	SCORE	CREDITS FOR	CREDITS
A2AP	Studio Art–2-D	4, 5	SA 0110	3
A3AP	Studio Art–3-D	4, 5	SA 0120	3
ADAP	Studio Art–Drawing	4, 5	SA 0130	3
AHAP	Art History	3, 4, 5	HA&A 0010	3
AMAP	U.S. History	4, 5	HIST 0600, 0601	6
BSAP	Biology	4	BIOSC 0050, 0150	4
		5	BIOSC 0050, 0150, 0060, 0160	8
CAAP	Computer Science A	3, 4, 5	CS 0401	4
CBAP	Computer Science AB	3, 4, 5	CS 0401	4
CGAP	Comparative Government and Politics	4, 5	PS 0300	3
CHAP	Chemistry	3, 4	CHEM 0110	4
		5	CHEM 0110, 0120	8
EEAP	Economics–Macroeconomics	4, 5	ECON 0110	3
EHAP	European History	4, 5	HIST 0100, 0101	6
EIAP	Economics–Microeconomics	4, 5	ECON 0100	3
ESAP	Environmental Science	4, 5	GEOL 0860	3
FLAP	French Literature	4, 5	See Dept.	-
FRAP	French Language	4, 5	See Dept.	-
GRAP	German Language	3	GER 1490	3
		4	GER 1490	4
		5	GER 1490	5

EXAM CODE	DESCRIPTION	SCORE	CREDITS FOR	CREDITS
HGAP	Human Geography	4, 5	GEOL 0030	3
LAAP	English Language and Composition	4, 5	ENGLIT 0000	3
LAAP	With 600 or higher on verbal SAT	5	ENGCMP 0200 & ENGLIT 0000	6
LCAP	Latin–Catullus and Horace	4, 5	LATN 0220	3
LIAP	English Literature and Composition	4, 5	ENGLIT 0000	3
LIAP	With 600 or higher on verbal SAT	5	ENGCMP 0200 & ENGLIT 0000	6
LVAP	Latin–Virgil	4, 5	LATN 0220	3
MAAP	Calculus AB	3, 4, 5	MATH 0220	4
MBAP	Calculus BC	3, 4, 5	MATH 0220, 0230	8
MLAP	Music - Listening and Literature	3, 4, 5	MUSIC 0211	3
MTAP	Music Theory	3, 4, 5	MUSIC 0131	3
PEAP	Physics C–Electricity / Magnetism (in addition to taking Physics C Mechanics and scoring a 4 or 5)	4, 5	PHYS 0174, 0175	8
PHAP	Physics B	3, 4, 5	PHYS 0110, 0111	6
PMAP	Physics C Mechanics	4, 5	PHYS 0174	4
PSAP	Psychology	3, 4, 5	PSY 0010	3
SLAP	Spanish Literature	4, 5	See Dept.	-
SSAP	Statistics	4, 5	STAT 0200	4
STAP	Spanish Language	4, 5	See Dept.	-
UGAP	U.S. Government and Politics	4, 5	PS 0200	3
WHAP	World History	4, 5	HIST 0000	3

- A score of four qualifies the student for CHEM 0710: Honors General Chemistry if he or she wishes, although students will not receive both AP credit and credit for CHEM 0710.
- Students will have to check with the department to determine credit or waiver.
- Students wishing to take German language courses must still take the German Placement Exam at their orientation session.

Credit by Examination

In some cases, students may earn credits toward a University of Pittsburgh degree or certificate by passing a course examination without registering for the course. Contact the individual department or school for information, as each sets its own policies as to the specific courses for which students may request credit by examination.

Career Development Courses

Noncredit, career development courses are not applicable to the bachelor's degree but may be included among the requirements for certain professional certificates.

Cooperative Programs

The University has established some arrangements with industries that permit students to rotate four-month terms between the workplace and the classroom. These programs are administered by the School of Engineering and are available to engineering, computer science, and chemistry students. The experience normally starts in the sophomore or junior year. Students should contact their school or department to determine the maximum number of credits that may be earned toward their degree requirements through cooperative programs. Call 412-624-9826 for more information.

Duplication of Course Content

Students may not earn credit for courses that substantially duplicate the content of other courses for which they have already received credit.

Directed Reading and Research, Independent Study, Internships

Some schools offer individually designed study other than regular courses. Students are limited by the individual schools as to how many such independent study, directed reading, directed research, and internship credits can be counted among the required credits for the degree. Requirements and procedures may also differ. Contact school for details.

Directed Reading
The student undertakes a specified course of study comparable to a regular course under the direct supervision of a faculty member.

Directed Research
The student pursues a defined research project on campus under the guidance of a faculty member.

Independent Study
Independent study involves an independent program of study, research, or creative activity designed under specified conditions and is usually conducted off campus with less immediate direction by the sponsoring faculty member.

Internships
Some schools provide internship experiences appropriate to the student's academic discipline. An internship is a supervised, work-related experience, either volunteer or compensated. It is intended to be a new experience, not an existing position in which the student is already working. Students will only get internship credit for a current employment situation that has been pre-approved as an internship by the relevant school or department.

English Language Institute Courses

Credit for certain English Language Institute courses may be applied toward the undergraduate degree. See school for details.

Enrollment in Graduate Courses

Undergraduate students with sufficient preparation are permitted to enroll in graduate courses, and credits earned may be counted toward the undergraduate degree following procedures determined by each school. Credits earned in graduate courses taken by an undergraduate student typically cannot be counted subsequently toward a graduate degree. Consult the appropriate graduate or professional school bulletin for rules governing transfer credits for graduate-level courses taken by an undergraduate student.

External Studies

The University External Studies Program (UESP) delivers courses to students who are unable to attend traditionally scheduled classes. Many of the course requirements can be completed at home at the student's own pace using specially designed self-instructional course materials. Some schools limit the number of external study courses that can be applied toward the degree. For more details, see school sections of this bulletin or call UESP at 412-624-7210.

Reserve Officer Training Corps (ROTC) Credits

Students may elect to participate in either the Air Force ROTC or Army ROTC Programs at the University of Pittsburgh or the Navy ROTC Program at Carnegie Mellon University. Contact individual schools to determine which credits earned in ROTC courses may be applied toward a degree. (For more information on ROTC, see the Special Academic Opportunities section of this bulletin.)

■ REGISTRATION

For additional registration information, visit the University registrar's Web site at www.pitt.edu/~registrar.

Full-Time and Part-Time Study

Full-time study is defined as enrollment for 12 to 18 credits per term, and part-time study is defined as enrollment for one to 11 credits per term. Students are charged a flat tuition rate for full-time study in the fall and spring terms. For part-time students, tuition payment is on a per-credit basis. Students may exceed the 18-credit limit with written permission from the dean of their school, but they will be billed on a per-credit basis for each additional credit. University fees and other applicable charges are assessed on student statements. Some schools within the University may also apply academic limitations on the number of credits for which a student is permitted to enroll each term. For instance, students in the College of Arts and Sciences must get permission to enroll for more than 17 credits. During the summer term and summer sessions, all students (except co-op students who are doing an academic rotation) are billed on a per-credit basis regardless of the number of credits taken.

Registering for Classes

After being admitted to a school, students may register for classes after consultation with their academic advisor. The registration period for a term or session is published in the University's *Schedule of Classes*, in course descriptions, on calendars (including the University's *Academic Calendar* at www.pitt.edu/calendars.html), and in numerous other publications.

Many students have the convenience of processing their registration form online in their school or advisor's office. Students may also process their registration form in the Registration Office, G-1 Thackeray Hall. Students are required to have the signature of their academic advisor on the registration form. The student's signature on the registration form creates a financial obligation to the University of Pittsburgh. Once students have registered, they may view their class schedules online at http://student-info.pitt.edu.

Adding and Dropping Courses

Students may add and drop course(s) only during the add/drop period. The dates for the add/drop period are published in University publications, in the University's *Schedule of Classes*, in course descriptions, on calendars (including the University's *Academic Calendar* at www.pitt.edu/calendars.html), and in numerous other publications. Students not enrolled in the College of Arts and Sciences and CAS students who are student athletes or participants in Student Support Services programs must have their academic advisor sign all add/drop forms. Students who no longer wish to remain enrolled in a course after the add/drop period has ended may withdraw from the course or resign from the University. See Monitored Withdrawal from a Course and Resigning from the University.

Cross Registration

Cross registration provides students with the opportunity to enroll in courses at member institutions of the Pittsburgh Council on Higher Education (PCHE). The designated colleges and universities at which undergraduate students may cross register include Carlow College, Carnegie Mellon University, Chatham College, Community College of Allegheny County, Duquesne University, La Roche College, Pittsburgh Theological Seminary, Point Park College, and Robert Morris University. Only full-time students may cross register. Students who cross register do not pay tuition to the host institution; however, they are responsible for any additional fees associated with the course such as laboratory fees, books, and the like. Students normally may register for only one course off campus in a given term. The grades and credits earned at the host institution are transferred to the home school. The academic policies of the host institution prevail.

Cross registration is only available in the fall and spring terms. During the summer, students may attend one of the above colleges as guest students, but they must pay that institution's tuition and fees. Students are discouraged from cross registering during their term of graduation to avoid any delays in the receipt of course credit needed to graduate. Students should meet with their advisor or a school representative before they cross register. For more information on cross registration, visit www.pchepa.org.

Monitored Withdrawal from a Course

After the add/drop period has ended, students may withdraw from a course that they no longer wish to attend by completing a Monitored Withdrawal Request form in the office of the school offering the course. Students must process the Monitored Withdrawal Request form within the first nine weeks of the term in the fall and spring. Because summer sessions vary in length, students should check the summer *Schedule of Classes* for those deadlines. Students should check with the school offering the course for the last day to submit a Monitored Withdrawal Request form. The grade W will appear on the student's grade report and transcript. There is no financial adjustment to students' tuition or fee obligations involved in withdrawing from courses, but withdrawing may jeopardize satisfactory academic progress, financial aid, and athletic eligibility.

Resigning from the University/ Termination of Registration

If students decide to drop all of their courses after the add/drop period has ended and before 60 percent of the term or session has been completed, they must resign from the University for that term. Official resignation from the University requires students to contact the Student Appeals Office. Students have several options. They may resign in person, by mail, or by calling 412-624-7585, where students may leave a message 24 hours a day, including weekends and holidays. An R grade will appear on the student's academic transcript for each course in the term of resignation. Tuition is prorated from the date of the student's notification to the Student Appeals Office of the student's desire to resign, unless 60 percent of the term has been completed, in which case there is no refund.

After the 60 percent point in time of the term or session has passed, students who wish to terminate their registration may process withdrawal from all classes only with the permission of their academic dean. If the reason for withdrawal is medical or psychological in nature, the academic dean may consult with the director of Student Health Service prior to making a determination. There is no financial adjustment associated with this procedure, which results in the assignment of W grades for the courses.

■ GRADING AND RECORDS

For additional grading and records information, visit the University registrar's Web site at www.pitt.edu/~registrar.

QPA and GPA

Quality Point Average (QPA) and Grade Point Average (GPA) are numerical indications of a student's academic achievement. QPA is the average of letter grades earned toward a degree. Undergraduates must have a 2.00 QPA in order to graduate from the University of Pittsburgh. GPA is the average of total letter grades earned.

Grading System

The University of Pittsburgh has a standard letter grade system (see Letter Grade Option). Some additional grading options are available in some courses as determined by the school and the instructor (see Grading Options below). Finally, students may choose to audit a course. Students complete Grade Option/Audit Request forms to request a grading option available in a particular course.

Grading Options

Individual schools may elect to offer a course with the following grade options:

LG	Letter grade
H/S/U	Honors/Satisfactory/Unsatisfactory
S/N	Satisfactory/Audit
LG and H/S/U	Letter grade and Honors/Satisfactory/ Unsatisfactory
LG and S/N	Letter grade and Satisfactory/Audit

Students may select a grade option for those courses that offer more than one option by submitting a Grade Option/ Audit Request form by the established deadline to the school offering the course (generally four weeks from the start of the term, but check with the school for specific deadlines). If the student does not fill out a Grade Option/Audit Request form for a course in which more than one grade option is available, the default option (generally a letter grade) will automatically be selected.

Letter Grade Option
The University's letter grade system identified below will be followed without exception:

Grade		Quality Points
A+	=	4.00
A	=	4.00 Superior
A-	=	3.75
B+	=	3.25
B	=	3.00 Meritorious
B-	=	2.75
C+	=	2.25
C	=	2.00 Adequate
C-	=	1.75
D+	=	1.25
D	=	1.00 Minimal
D-	=	0.75
F	=	0.00 Failure

H/S/U Grade Option
Certain courses are offered on the H/S/U (Honors/Satisfactory/Unsatisfactory) grade option. Under this option, students earn an H if they do exceptional work (equivalent to an A- or higher under the letter grade system), an S if they do satisfactory work (equivalent to grades from a C up to a B+), or a U if they do unsatisfactory work (equivalent to a C- or lower). The H and S grades received under this option are counted towards graduation, but are not computed in the student's QPA. The U grade is counted towards neither graduation nor the QPA.

S/N Grade Option
Certain courses are offered on the S/N (Satisfactory/Audit) grade option. This option was designed to encourage students to explore new and potentially difficult subjects without fear of the risks of failure. Under this option, a student who does satisfactory work (a grade of C or better) in a course receives the grade of S. If the student's work is not satisfactory (a grade of C- or lower), the grade of N (for audit) is given. Courses for which an S is received are counted toward graduation, but are not computed in the QPA. Courses in which an N is received are counted towards neither graduation nor the QPA.

Other Grades: Incomplete, Withdraw, Resign

Upon a student's completion of a course, one of the grades listed below may appear on the student's transcript in lieu of one of the options selected by the student and/or instructor (the options are listed under Grading Options). None of these grades carries quality points:

G Grade
The G grade signifies unfinished course work due to extenuating personal circumstances. Students assigned G grades are required to complete course requirements no later than one year after the term or session in which the course was taken. Some schools have a shorter deadline for completion of G grades; see school for details.

Once the deadline has passed, the G grade will remain on the record, and the student will be required to reregister for the course if it is needed to fulfill requirements for graduation.

I Grade
The I grade signifies incomplete course work due to the nature of the course, clinical work, or incomplete research work in individual guidance courses or seminars.

R Grade
The R grade signifies that a student resigned from the University for the term. (See Resigning from the University for more information.)

W Grade
The W grade signifies that a student has withdrawn from a course. (See Monitored Withdrawal from a Course for more information.)

Z Grade
The Z grade indicates that an instructor has issued an invalid grade.

Auditing a Course

To audit a course, a student must register and pay tuition for the course. A Grade Option/Audit Request form must be submitted for undergraduate courses by the established deadline. Students who audit a course are given an N grade.

Repeating Courses

Students may elect to repeat a course, subject to the following stipulations. Students should check with their individual schools for other school-specific rules on repeating courses, including the need to submit appropriate forms.

- A sequence course may not be repeated for credit if the student passes a higher sequence course with a C or better grade.
- A student may not enroll in the same course at another institution and have that grade replace the original grade earned at the University.
- The original course and grade remain on the transcript; however, the grade and credits originally earned are not counted in the calculation of the QPA or GPA.
- The grade earned by repeating a course is used instead of the grade originally earned. W, R, or N grades reported for the repeated course will not be identified as a course repeat, and therefore the original grade earned will continue to be counted in the QPA. Incomplete grades (G and I) are not identified as repeated courses until the course work is completed.
- Students are only permitted to repeat a course twice. Any grade earned in the repeated course will be recorded on the academic transcript, even if it is lower than the original grade.

Changing Grades

The instructor of a course may change a student's grade by submitting a Change of Grade Card. All grade changes require the authorization of the dean of the school from which the original grade was issued. Students can verify grade changes for the terms available online via the secure server at http://student-info.pitt.edu.

Grade Reports

At the end of each term, a grade report is prepared by the Office of the University Registrar and mailed to the student, provided that all charges have been paid. This report shows the total credits carried, the grade received in each course, and total quality points earned. Shortly after the term ends, students can also access their grades online via the secure server at http://student-info.pitt.edu.

Transcripts

An academic transcript serves as a permanent record of a student's academic progress. The transcript is a cumulative record of the student's QPA, as well as a record of the department, title, and grade for each course in which the student has enrolled and summary advanced standing information. Students may request an official transcript that bears the seal and signature of the University registrar. Currently enrolled students may also receive one unofficial copy of their transcript per term for personal use. Upon graduation, the transcript reflects a student's degree and date, major, and, if applicable, honors, area of concentration, and minor.

Academic Record

The academic record is not an official University transcript, but a document containing a student's complete University of Pittsburgh academic history. In addition to the information provided on the transcript, the academic record provides students and advisors with admission data, academic events, detailed advanced standing/placement/transfer credit information, and standardized test scores. Students with no outstanding financial obligations to the University can receive one free copy of their academic record each term in G-3 Thackeray Hall.

■ ACADEMIC STANDING

Undergraduate students' academic standing is maintained and monitored each term by the school in which the student is enrolled. Students who are not on academic probation or academic suspension (i.e., students who maintain a cumulative quality point average of 2.00 or higher) are considered to be in good academic standing.

Dean's List

Students whose grades indicate outstanding academic achievement are recognized on their school's Dean's List. The following schools have a Dean's List:

- College of Arts and Sciences
- College of Business Administration
- School of Dental Medicine
- School of Engineering
- College of General Studies
- School of Health and Rehabilitation Sciences
- School of Information Sciences
- School of Nursing

Other Academic Honors

Schools and programs may have additional ways of recognizing academic achievement by students, such as Phi Beta Kappa, Tau Beta Pi, or a Term Honor List. More information about these opportunities is available through the school.

Probation, Suspension, and Dismissal

Students who fail to make satisfactory progress may be subject to academic probation and/or suspension and dismissal. Students who have completed at least 12 quality point credits and whose QPA falls below 2.00 will be placed on academic probation by the dean of their school. After a certain period of time on academic probation (determined by the student's school), a student is subject to academic suspension and restricted from registering for classes in that school. Details of the undergraduate school's probation system are available through that school.

Effect on Financial Aid

Conditions for financial aid eligibility usually require students to complete a specified number of credits each year and maintain a specified quality point average (QPA: credits counting toward the degree). Questions about the effect of unsatisfactory academic standing on financial aid should be directed to the Office of Admissions and Financial Aid in Alumni Hall at 412-624-7488.

■ GRADUATION

Requirements for Graduation

Graduation requirements differ among schools. However, all schools require a minimum of 120 passing credits to graduate, as well as a QPA of at least 2.00. (See specific schools and programs for detailed graduation requirements.)

Application to Graduate

Students must file an application for graduation through their college or school. Generally, students must apply for graduation before the end of the term preceding the one during which they expect to complete all degree requirements. Each school establishes its own deadline by which students must apply for graduation. Students should check with their school for the deadline.

Graduation with Honors

Undergraduate members of a graduating class who have attained an outstanding scholastic record may be graduated with University honors. To be eligible, a student must complete at least 60 letter-graded credits at the University of Pittsburgh. All degree-related course work completed at the University is calculated in the quality point average. Receipt of University honors is based on having obtained the following quality point average at graduation:

Summa Cum Laude	3.75
Magna Cum Laude	3.50
Cum Laude	3.25

The honor status achieved by a student will appear on the student's official University transcript and diploma.

Each school may award undergraduate program honors based on the major QPA and other criteria, as determined by the school and department.

Commencement

Candidates for graduation are encouraged to appear in person at commencement, usually held the Sunday after the spring term ends. Although the degree is officially conferred at commencement, diplomas are mailed to graduates several weeks later.

■ STUDENT RIGHTS AND RESPONSIBILITIES

The University has a number of official policies affecting students. For complete and current text on all University policies, please see www.pitt.edu/home/pp/pp_handbooks.html.

The information on the next few pages summarizes several key University-wide policies affecting undergraduate students, but students are also responsible for being cognizant of those University, school, and departmental regulations relevant to their programs of study.

Academic Integrity Policy

Students have the responsibility to be honest and to conduct themselves in an ethical manner while pursuing academic studies. Students have the right to be treated by faculty in a fair and conscientious manner in accordance with the ethical standards generally recognized within the academic community (as well as those recognized within the profession). Should a student be accused of a breach of academic integrity or have questions regarding faculty responsibilities, procedural safeguards including provisions of due process have been designed to protect student rights. These may be found in *Guidelines on Academic Integrity: Student and Faculty Obligations and Hearing Procedures* at www.pitt.edu/~provost/ai1.html.

Computing Use Policy

Every member of the University community has two basic rights regarding computing: privacy and a fair share of resources. It is unethical for another person to violate these rights. All users, in turn, are expected to exercise common sense and decency with regard to the campus computing resources. Please read *Ethical Guidelines for Computing,* available in campus computing labs or online at www.pitt.edu/~document/ethics/ethics.html, for details.

Students are subject to the rules and regulations as described in the University of Pittsburgh *Student Code of Conduct.* Students should realize that any misuse of computing resources may result in the suspension of their computing privileges.

Student Code of Conduct

The *Student Code of Conduct* is an outline of the nonacademic rights and responsibilities of University students. The code defines offenses by and against students. A student or University official may file a complaint of violation of the *Student Code of Conduct* at the University Student Judicial System. For a copy of the code, please contact the judicial system office in 738 William Pitt Union at 412-648-7918 or see www.osa.pitt.edu/usjs/code.html.

Judicial System

The Office of Judicial Affairs' University Student Judicial System coordinates the Campus Judicial Board. It also receives, previews, and acts upon complaints of violations of the *Student Code of Conduct*. Its purpose is to provide due process and fair treatment in adjudicating charges filed for violations of the code. All complaints about nonacademic student behavior should be filed here.

Pitt Promise: A Commitment to Civility

The University of Pittsburgh is committed to the advancement of learning and service to society. This is best accomplished in an atmosphere of mutual respect and civility, self-restraint, concern for others, and academic integrity. Students are asked to accept the obligation to live by these common values and commit themselves to principles of behavior that contribute to a civil campus environment and to support this behavior in others. The Pitt Promise is online at www.osa.pitt.edu/lap/promise.html.

■ OTHER POLICIES

Affirmative Action and Nondiscrimination Policy

The University of Pittsburgh, as an educational institution and as an employer, values equality of opportunity, human dignity, and racial/ethnic and cultural diversity. Accordingly, the University prohibits and will not engage in discrimination or harassment on the basis of race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, disability, or status as a disabled veteran or a veteran of the Vietnam era. Further, the University will continue to take affirmative steps to support and advance these values consistent with the University's mission. This policy applies to admissions, employment, and access to and treatment in University programs and activities, except where exempt by federal or state laws. (Note: ROTC programs discriminate against students on the basis of sexual orientation and therefore are not in compliance with the University's nondiscrimination policy.) For complete policy, see www.pitt.edu/home/pp/policies/07/07-01-03.html.

AIDS Policy

The University of Pittsburgh does not discriminate against individuals who are diagnosed as HIV positive or as having AIDS.

The University recognizes that the health condition of individuals is personal and confidential. Reasonable precautions will be taken to protect information regarding the health condition of all members of the University community.

Based on medical evidence that indicates that there is no risk of transmitting HIV through casual contact in the classroom or circumstances involving only casual contact with others, the University will impose no undue restrictions on faculty, staff, or students who are infected with HIV. For complete text on this policy, see www.pitt.edu/home/pp/policies/06/06-01-01.html.

Drug-Free School and Workplace Policy

The University of Pittsburgh prohibits the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance on University property or as part of any University activity. Faculty, staff, and students of the University must also comply with the laws of the Commonwealth of Pennsylvania on the possession and consumption of alcohol.

Violation of this policy will result in disciplinary action within 30 days, including, but not limited to, a warning, written reprimand, suspension, dismissal, expulsion, and/or mandatory participation and successful completion of a drug abuse assistance or rehabilitation program approved by an appropriate health or law enforcement agency.

Any University employee paid from federally funded grants or contracts, or any students participating in any federally funded or guaranteed Student Loan Program, must notify the University of any criminal drug statute conviction for a violation occurring at the University or while engaged in University activities. For more information, see www.pitt.edu/home/pp/policies/06/06-02-01.html.

Faculty-Student Relationships

The University's educational mission is promoted by professional relationships between faculty members and students. Relationships of an intimate nature (that is, sexual and/or romantic) compromise the integrity of a faculty-student relationship whenever the faculty member has a professional responsibility for the student. The University prohibits intimate relationships between a faculty member and a student whose academic work, teaching, or research is being supervised or evaluated by the faculty member.

If an intimate relationship should exist or develop between a faculty member and a student, the University requires the faculty member to remove himself/herself from all supervisory, evaluative, and/or formal advisory roles with respect to the student.

Definition Note: In this policy, the definition of faculty member refers to anyone appointed by the University as a teacher, researcher, or academic administrator, including graduate and undergraduate students so appointed. For complete text on this policy, see www.pitt.edu/home/pp/policies/02/02-04-03.html.

Family Educational Rights and Privacy Act (FERPA)

In compliance with the Family Educational Rights and Privacy Act of 1974, the University guarantees that students have the right to inspect all personally identifiable records maintained by the institution and may challenge the content and accuracy of those records through appropriate institutional procedures. It is further guaranteed by the University that student records containing personally identifiable information will not be released except as permitted by the Family Educational Rights and Privacy Act. See www.pitt.edu/~registrar/frpapgferpa.htm for more information.

Harassment Policies

Harassment

No University employee, student, or individual on University property may intentionally harass or abuse a person (physically or verbally) with the purpose or effect of unreasonably interfering with such person's work or academic performance, or of creating an intimidating, hostile, or offensive work or academic environment.

Sexual Harassment

The University of Pittsburgh is committed to the maintenance of a community free from all forms of sexual harassment. Sexual harassment violates University policy as well as state, federal, and local laws. It is neither permitted nor condoned.

It is also a violation of the University of Pittsburgh's policy against sexual harassment for any employee or student at the University of Pittsburgh to attempt in any way to retaliate against a person who makes a claim of sexual harassment. Any individual who, after thorough investigation and an informal or formal hearing, is found to have violated the University's policy against sexual harassment will be subject to disciplinary action, including, but not limited to, reprimand, suspension, termination, or expulsion.

Any disciplinary action taken will depend upon the severity of the offense. For more information, see www.pitt.edu/~provost/har.html.

Immunization Policy

The University requires the immunization of all incoming freshmen against measles, mumps, and rubella as a condition of attendance at the University of Pittsburgh. Incoming freshmen must provide to the University Student Health Service documentation of immunization that includes the month, day, and year that the immunizations were administered. Completed immunization forms must be kept on file in the Student Health Service.

Exemptions may be granted based on a written statement from a physician that the immunization may be detrimental to the health of the student or on a student's objection to immunization on religious grounds or on the basis of a strong moral or ethical conviction similar to a religious belief. However, if an outbreak of measles, mumps, or rubella occurs, the St ate Health Department may exclude from classes students who do not provide proof of immunity

to these diseases. For more information, see www.pitt.edu/home/pp/policies/06/06-01-02.html.

Patent Policy

A University student, during his or her period of enrollment, may be responsible for new discoveries and inventions that could have commercial value and contribute to scientific, technological, social, and cultural progress. Those accomplishments should be patented in the best interest of the student, the University, the public, and the government. The University's policy on patents determines the rights and obligations of the student and the University in any technology the student may invent while enrolled in the University. Details of this University policy are available from the Office of Technology Management or at www.pitt.edu/home/pp/policies/11/11-02-01.html.

Research Integrity

The University of Pittsburgh seeks excellence in the discovery and dissemination of knowledge. Excellence in scholarship requires all members of the University community to adhere strictly to the highest standards of integrity with regard to research, instruction, and evaluation. Research misconduct carries potential for serious harm to the University community, to the integrity of science, and to society as a whole. The University's Research Integrity Policy is available online at www.pitt.edu/home/pp/policies/11/11-01-01.html.

Smoking Policy

Smoking is prohibited in all University-owned and leased facilities, including residence halls and off-campus housing facilities, and in all University vehicles, including motor pool vehicles, campus buses, and vans, with explicit limited exceptions described in University Policy 04-05-03. For complete policy text, see www.pitt.edu/home/pp/policies/04/04-05-03.html.

Student Service Holds Policy

Access to many student services including registration and receipt of grades may be delayed for a number of reasons ranging from financial liability to missing data. Complete information on this policy is available online at www.pitt.edu/home/pp/policies/09/09-04-09.html.

Special Academic Opportunities

The University of Pittsburgh makes many special academic opportunities available to all of the University's undergraduate students. These opportunities provide students with ways to augment their education and experience with expanded study programs both on campus and off campus, in both University and professional settings.

■ AREA OF CONCENTRATION

An area of concentration is an approved educational experience that results in concentrated training in or knowledge of a particular area within the discipline of a degree program. An earned area of concentration is posted on the student's official transcript at the time of graduation. For more information about specific areas of concentration, see individual school sections.

■ CERTIFICATE PROGRAMS

Students may broaden their educational experience by electing to take an academic interdisciplinary certificate program in the areas listed below. The certificate may partially fulfill the degree requirements of the student's school. The requirements for each certificate vary, and students should contact the certificate program director. For more information about these certificate programs, see their listings in the school or unit section identified in parentheses.

- Accounting (CGS)
- African Studies (UCIS)
- American Sign Language (CAS)
- Asian Studies (UCIS)
- Children's Literature (CAS)
- Civil Engineering and Architectural Studies (ENGR)
- Communications (CGS)
- Community Health Assessment (CGS)
- Conceptual Foundations of Medicine (CAS)
- Dental Hygiene (DEN)
- Energy Resource Utilization (ENGR)
- European Union Studies (UCIS)
- Film Studies (CAS)
- Freshmen Honors Engineering (ENGR) (Fessenden Honors in Engineering Program)
- Geographic Information Systems (CAS)
- German Language (CAS)
- Global Studies (UCIS)
- Historic Preservation (CAS)
- Information System Design (CGS)
- International Business (CBA)
- International Engineering Studies (ENGR)
- Jewish Studies (CAS)
- Latin American Studies (UCIS)
- Leadership and Ethics (CBA)
- Managing Health Services Programs & Projects (CGS)
- Medieval and Renaissance Studies (CAS)
- Photonics (CAS)
- Public and Professional Writing (CAS)
- Product Realization (ENGR)
- Russian and East European Studies (UCIS)
- Statistical Quality Control (CGS)
- Sustainable Engineering (ENGR)
- West European Studies (UCIS)
- Women's Studies (CAS & CGS)
- Writing (CGS)

Abbreviations are as follows:

CAS = College of Arts and Sciences
CBA = College of Business Administration
DEN = School of Dental Medicine
CGS = College of General Studies
ENGR = School of Engineering
UCIS = University Center for International Studies

■ COOPERATIVE PROGRAMS

The University has established some arrangements with industry that permit students to rotate four-month terms between the workplace and the classroom. These programs are administered by the School of Engineering and available to engineering, computer science, and chemistry students. The experience normally starts in the sophomore or junior year. Call 412-624-9826 for more information or see www.engr.pitt.edu/coop.

■ CROSS REGISTRATION

Cross-college and cross-university registration is a program designed to provide enriched educational opportunities for undergraduates in any of the following participating Pittsburgh-area institutions: Carnegie Mellon University, Carlow College, Chatham College, Community College of Allegheny County, Duquesne University, Point Park College, La Roche College, Robert Morris University, Pittsburgh Theological Seminary, and the University of Pittsburgh. For requirements and limitations, see the Registration section of this bulletin or visit www.pchepa.org.

■ DOUBLE AND JOINT DEGREES

Students may simultaneously pursue more than one undergraduate degree (e.g., a BA and a BS within the College of Arts and Sciences, or an undergraduate degree in the School of Engineering and in the College of Arts and Sciences). Students must be admitted to both schools offering the degrees and fulfill the degree requirements of both schools. For the double degree (whether within or between schools), the student must complete not only the requirements for both degrees, but also a minimum of 30 credits beyond what is normally required for the primary degree (e.g., a student earning two CAS degrees would need at least 150 credits,

rather than the usual 120; a student earning a CAS degree as the primary degree and a degree from another University of Pittsburgh school as the secondary degree would need at least 150 credits). Students must maintain a 2.00 QPA in all courses. Check with the individual school for other specific requirements that apply.

■ GRADUATE AND PROFESSIONAL SCHOOL OPPORTUNITIES

Graduate school provides students with the opportunity to enhance their knowledge and qualifications in areas of academic and professional interest. All students can take advantage of being at a major research and graduate institution by exploring the many possibilities for graduate study that exist at the University. See the University's graduate studies Web page for general information: www.pitt.edu/~graduate. For program information, see the *Graduate and Professional Bulletin* at www.umc.pitt.edu/bulletins/graduate/index.html.

University of Pittsburgh undergraduate students with sufficient preparation are permitted to enroll in certain graduate courses at the University following procedures determined by each school. The graduate credits earned may be counted toward the undergraduate degree if approved by the student's school. These may not be counted as credits toward a graduate degree except as noted below.

Undergraduate students who need fewer than 15 credits to complete requirements for the baccalaureate degree and who intend to continue study toward an advanced degree may be permitted during their final term to register for graduate courses that will later apply toward a graduate degree. See the *Graduate and Professional Bulletin* at www.umc.pitt.edu/bulletins/graduate/index.html for more information.

Some schools offer accelerated admission into certain graduate and professional schools through a combined program leading to both a bachelor's and graduate or professional degree. The participating undergraduate schools and their early admissions graduate school partners are listed below:

- College of Arts and Sciences (CAS)—Communication Science Program (speech, pathology, and audiology) within the School of Health and Rehabilitation Sciences (SHRS)
- CAS—Physical Therapy Program within SHRS
- CAS—School of Dental Medicine
- CAS—Computer Science within FAS
- CAS—Statistics within FAS
- CAS—School of Law
- School of Nursing—RN Options Program (RN-MSN option)
- SHRS—Health Information Management Program

■ HONORS COLLEGE AND HONORS COURSES

The University Honors College (UHC) seeks to meet the special academic and cocurricular needs of the University's most able and motivated undergraduate students. The University Honors College offers a variety of carefully designed courses from the humanities, social sciences, and natural sciences, along with special advising opportunities for an academic community of motivated students, and a special baccalaureate degree in any undergraduate school of the University. Call 412-624-6880, visit www.honorscollege.pitt.edu, or see the University Honors College section of this bulletin for more information. In addition, some schools and departments offer an honors major. Students should see their school for more information on this opportunity.

■ INTERNSHIPS

Some schools provide internship experiences appropriate to the student's academic discipline. An internship is a supervised, work-related experience, either on a volunteer or compensated basis. It is intended to be a new experience, not an existing position in which the student is already working. Students will only get internship credit for a current employment situation that has been pre-approved as an internship by the relevant school or department.

■ MINORS

A minor provides an option for a student obtaining a degree in a particular discipline to attain knowledge of another discipline. Students may earn minors in schools other than the school in which they are enrolled. After the student lists the official minor on his or her graduation application, the minor appears on the student's academic record and official transcript when the degree is awarded. (See the Schools and Academic Programs section of this bulletin for available minors.)

■ RESERVE OFFICER TRAINING CORPS (ROTC)

ROTC is an educational program designed to provide full-time students an opportunity to become military officers while completing a bachelor's or a graduate degree. Students may elect to participate in either the Air Force or Army ROTC program at the University of Pittsburgh or the Naval ROTC program at Carnegie Mellon University. Students in the Army and Air Force programs have the option of completing a two- or a four-year program. Students in the Naval ROTC program at CMU have the option of completing a two-, three-, or four-year program. Completion of the Air Force ROTC program leads to a commission as a second lieutenant in the U.S. Air Force. Completion of the Army ROTC program leads to a commission as a second lieutenant in the U.S. Army, the Army National Guard, or the U.S. Army Reserve. Completion of the Navy ROTC program leads to a commission as an officer in the Navy or Marine Corps. All three programs offer stipends or scholarships.

Call 412-624-6396 or see www.rotc.pitt.edu for more information on the Air Force ROTC program, 412-624-6197 for more information on the Army ROTC program, and 412-268-5109 or http://nrotc.cmu.edu for more information on the Navy ROTC program.

■ SEMESTER AT SEA

The Semester at Sea Program is academically sponsored by the College of Arts and Sciences and administered by the Institute for Shipboard Education. Each fall, spring, and summer semester as many as 650 undergraduates from the University of Pittsburgh and other institutions across the country study and travel around the world aboard the S.S. Universe Explorer, a passenger ship equipped as a floating university campus. Educational activities on land during port stays of four to five days in nine countries complement classroom instruction aboard ship. Recent itineraries have included visits to Brazil, Cuba, China, India, Japan, Kenya, Malaysia, Russia, South Africa, and Vietnam. For more information, visit www.semesteratsea.com, email info@semesteratsea.com, or call 1-800-854-0195. Visit the Semester at Sea office in 811 William Pitt Union.

■ STUDY ABROAD

Students are encouraged to add an international dimension to their undergraduate education through study abroad. Programs of study exist in almost every corner of the world and will fulfill requirements for almost any field of study. Foreign language proficiency is not a requirement, as most programs offer courses taught in English. Financial aid and scholarships are available. Interested students should come to the Study Abroad Office in 802 William Pitt Union to discover their many options. Call 412-648-7413 to schedule an Essentials of Study Abroad Session or explore www.pitt.edu/~abroad. The Engineering Study Abroad Office is in B-80G Benedum, and the CBA Study Abroad Office is in 2514 Sennott Square.

■ SUMMER SESSIONS

The University offers a large selection of courses in a variety of compressed sessions throughout the summer. Current students can register through their school. Additional information is available through the Office of University Summer Sessions at 412-383-8600 or www.pitt.edu/~summer.



Schools and Academic Programs

SCHOOLS AND ACADEMIC PROGRAMS

The University of Pittsburgh offers numerous undergraduate majors. Those majors are listed below, along with the degree conferred and the school or college offering the major. Majors in which a minor is also available are marked with an asterisk. See the individual school's or college's section of this bulletin for specific major and degree requirements. Please note that undergraduate programs at the University of Pittsburgh at Bradford, Greensburg, Johnstown, and Titusville are described in their separate bulletins.

The University Honors College offers a Bachelor of Philosophy (BPhil) degree in many of the majors listed below (see University Honors College section of this bulletin for details). Also, the many double major possibilities are not listed here; students should check with the individual school to determine the range of double majors allowed.

MAJORS AND MINORS

Major	Degree Conferred	School/ College[1]
Accounting	BSBA	CBA
Administration of Justice*	BA	CGS
Africana Studies	BA	CAS
Africana Studies & English Literature	BA	CAS
Anthropology	BA	CAS
Applied Developmental Psychology	BS	EDUC
Applied Mathematics	BS	CAS
Architectural Studies	BA	CAS
Bioengineering*	BSE	ENGR
Biological Sciences	BS	CAS
CAS Major/Business	BA or BS	CAS
Chemical Engineering*	BSE	ENGR
Chemistry	BS	CAS
Chinese	BA	CAS
Civil Engineering*	BSE	ENGR
Classics*	BA	CAS
Clinical Dietetics and Nutrition	BS	SHRS
Communication: Rhet & Comm	BA	CAS
Communication Science	BA	SHRS
Computer Engineering	BSE	ENGR
Computer Science	BS	CAS
Dental Hygiene	BS	CGS
Ecology and Evolution	BS	CAS
Economics*	BA or BS	CAS
Electrical Engineering*	BSE	ENGR
Emergency Medicine	BS	SHRS
Engineering Physics	BSE	ENGR
English Literature*	BA	CAS
English Writing	BA	CAS
Environmental Geology	BS	CAS
Environmental Studies	BA	CAS
Film Studies	BA	CAS
Finance	BSBA	CBA
French*	BA	CAS
General Management	BSBA	CBA
Geology	BS	CAS
German	BA	CAS
Health Information Management	BS	SHRS
Health Services	BA	CGS
History*	BA	CAS
History and Philosophy of Science	BA	CAS
History of Art & Architecture	BA	CAS
Humanities Area	BA	CGS
Industrial Engineering*	BSE	ENGR
Information Science	BS	SIS
Interdisciplinary Studies	BA or BS	CAS
Italian*	BA	CAS
Japanese*	BA	CAS
Legal Studies*	BA	CGS
Liberal Studies	BA or BS	CGS
Linguistics*	BA	CAS
Marketing	BSBA	CBA
Materials Science and Engineering*	BSE	ENGR
Mathematics	BS	CAS
Mathematics-Economics	BA or BS	CAS
Mathematics-Philosophy	BA or BS	CAS
Mechanical Engineering*	BSE	ENGR
Media Communications	BA	CGS
Microbiology	BS	CAS
Molecular Biology	BS	CAS
Movement Science	BS	EDUC
Music*	BA	CAS
Natural Sciences Area	BS	CGS
Neuroscience*	BS	CAS
Nursing	BSN	NURS
Pharmacy	PharmD[2]	PHARM
Philosophy*	BA	CAS
Physics*	BS	CAS
Physics and Astronomy	BA or BS	CAS
Polish	BA	CAS
Political Science*	BA	CAS
Politics-Philosophy	BA	CAS
Psychology	BS	CAS
Public Service*	BA	CGS
Rehabilitation Science	BS	SHRS
Religious Studies*	BA	CAS
Russian	BA	CAS
Scientific Computing	BS	CAS
Social Sciences Area	BA	CGS
Social Work	BASW	SOC WK
Sociology*	BA	CAS
Spanish	BA	CAS
Statistics	BS	CAS
Studio Arts*	BA	CAS
Theatre Arts*	BA	CAS
Urban Studies	BA	CAS

* Minor in this field is also available.

In addition to those minors noted with asterisks, the following minors are also available:

Aerobics	EDUC
Aerobics/Fitness	EDUC
Applied Statistics	CAS
Aquatics	EDUC
Coaching	EDUC
Dance	EDUC
Environmental Engineering	ENGR
Fitness	EDUC
German Studies	CAS
Petroleum Engineering	ENGR
Polymer Engineering	ENGR
Slovak Studies	CAS

[1]Abbreviations are as follows:
CAS = College of Arts and Sciences
CBA = College of Business Administration
EDUC = School of Education
ENGR = School of Engineering
CGS = College of General Studies
SHRS = School of Health and Rehabilitation Sciences
SIS = School of Information Sciences
NURS = School of Nursing
PHARM = School of Pharmacy
SOC WK = School of Social Work

[2]The PharmD is not an undergraduate degree, but the School of Pharmacy admits undergraduates (including incoming freshmen) to its professional program that leads to a PharmD degree. See School of Pharmacy section of this bulletin for details.

■ COLLEGE OF ARTS AND SCIENCES

Action is pending to change the name of the College of Arts and Sciences to the School of Arts and Sciences. When approved, the acronym will also change from CAS to A&S.

The College of Arts and Sciences (CAS) is the oldest and largest unit within the University of Pittsburgh, with more than 9,000 students and 650 full-time faculty from across the United States and around the world. The college offers the advantages of a liberal arts education within the setting of a comprehensive research university. The College of Arts and Sciences is the undergraduate component of the Faculty of Arts and Sciences (FAS); FAS provides CAS with its faculty members.

The instructional programs provide a liberal education, including specialized training in the academic disciplines and preparation for entrance into professional schools and graduate programs. The College of Arts and Sciences strives to help our students cultivate the skills and knowledge that provide a foundation for future study and work and for lifelong learning, and to educate students so that they become perceptive, reflective, and intellectually self-conscious citizens of the world. The main elements of this liberal education are: acquaintance with great works of art, literature, and philosophy, and the skills to appreciate them; some understanding of basic social institutions and processes; a sense of history and some familiarity with the richness and variety of human cultural achievements; an awareness of the main ideas of contemporary natural science and mathematics; and engagement with languages and cultures other than one's own.

With the help of individualized academic advising, CAS students choose from approximately 50 majors and several CAS and University Center for International Studies (UCIS) certificate programs and pursue a broad range of academic subjects while interacting with faculty and peers from a variety of backgrounds and cultures. In addition, CAS students are encouraged to take advantage of the many professional and other enriching experiences available outside the classroom at the University. These include research under the guidance of faculty who have earned national and international reputations as top scholars in their fields or participation in academic internships at more than 800 corporate and nonprofit institutions. Students may pursue study abroad in approximately 45 countries or sail around the world on the academic ship the S.S. Universe Explorer. They may serve as undergraduate teaching fellows or develop leadership skills in student organizations.

In support of the Faculty of Arts and Sciences' mission "to educate students for success in a dynamic society," the staff and faculty of the College of Arts and Sciences seek to nurture the development of productive individuals who have a strong commitment to their own success as well as to the University and who make significant contributions to the broader community.

Contact Information

University of Pittsburgh
College of Arts and Sciences
140 Thackeray Hall
Pittsburgh, PA 15260
Phone: 412-624-6480
Fax: 412-624-8265
caswww@pitt.edu
www.cas.pitt.edu

Admission through the Office of Admissions and Financial Aid

The following students (except international students) are admitted to the College of Arts and Sciences by the Office of Admissions and Financial Aid. These students should see the Application for Admission section of this bulletin for general admissions information.

- Freshmen (see Pittsburgh Campus Freshman Admissions for general admissions information).
- Transfer students who have previously enrolled at a college or university other than the University of Pittsburgh. These include former University of Pittsburgh students who have since earned college credits at another institution and now wish to return to CAS.
- Continuing education students: Adults who wish to begin or continue to work toward an undergraduate degree by taking a full- or part-time load of day classes should apply as new or transfer students through the Office of Admissions and Financial Aid.

- Students who have previously earned a bachelor's degree from an institution other than the University of Pittsburgh and now wish to earn a second undergraduate degree.

Admission through the College of Arts and Sciences

The following students must apply directly to CAS for admission:

Transfer from Other University of Pittsburgh Schools at the Pittsburgh Campus

Students who wish to transfer to CAS from other schools at the Pittsburgh campus should contact the school in which they were most recently enrolled in order to have their records sent to CAS. CAS will evaluate the records and send the student a letter of admission or rejection. To qualify for transfer, a student must have an overall average of at least 2.00, and students in the College of General Studies (CGS) must have at least 24 credits earned in residence in CGS. In addition, it is preferred that students complete the CAS basic skills requirements in intensive composition and algebra before applying for transfer to CAS.

After acceptance, students will receive an evaluation of their previous course work in reference to CAS skills and general education requirements. Students will receive a maximum of 18 non-CAS credits toward graduation from CAS. Also, students must earn the last 30 credits toward the CAS degree and at least half of the credits for the CAS major while enrolled as a CAS student.

Transfers from University of Pittsburgh Regional Campuses

Students enrolled at one of the University of Pittsburgh's regional campuses who now wish to attend the College of Arts and Sciences at the Pittsburgh campus should apply for admission by contacting the campus where they were most recently enrolled in order to have their records sent to CAS. CAS will evaluate the records with respect to CAS skills and general education requirements and send a letter of rejection or admission. The minimum requirements for transfer to CAS from a regional campus are 48 credits and an overall average of at least 2.75. It is preferred that students at regional campuses complete CAS basic skills requirements in intensive composition and algebra before transferring to CAS.

Students Seeking a Second University of Pittsburgh Undergraduate Degree

Students who have earned a bachelor's degree in any University of Pittsburgh school or regional campus and now wish to earn a second undergraduate degree should apply directly to CAS. Applicants should note the following:

- Course work for the second degree will continue on the original University of Pittsburgh undergraduate transcript.
- All appropriate course work from the first degree will apply to the second degree, up to a maximum of 90 credits. This will be indicated on the academic record during the student's first term of enrollment as a second-degree student. A minimum of 30 new credits must be earned toward the second degree.
- A total of 18 non-arts and sciences credits (e.g., business, nursing, engineering, etc.) may be applied to a CAS degree.
- The cumulative QPA and credit total will be based on all credits from the first degree and all new course work taken that applies to the second degree.

Students Seeking Reinstatement

The following students must apply for reinstatement through CAS:

- CAS students who have not enrolled for three consecutive terms (one calendar year),
- CAS students who have been suspended from the college and now wish to continue their studies, and
- students who last attended another school at the University's Pittsburgh campus but have not enrolled in classes for at least one year, have not attended another institution, and now wish to be admitted to CAS.

Deadlines are August 15 for fall term, December 15 for spring term, and one week before the beginning of classes in the summer term or sessions. There is an application fee of $25. Students who last attended another University of Pittsburgh school on the Pittsburgh campus must meet the admissions requirements for transfer to CAS. Students' academic standing upon reinstatement will be that attained at the end of their last term in residence.

Students who are reinstated for a particular term but do not enroll for that term must apply for reinstatement again if they wish to attend for a later term. Students who have been away from the University for two or more years may be subject to the requirements of the college and of their major in force at the time of their reinstatement, rather than those in force at the time of their last attendance.

Guest Students

Qualified degree-seeking students at other institutions may be admitted to CAS for the fall or spring term to earn credits for transfer to their home school for use toward graduation. Applicants must be in good academic standing at their home institution, with a minimum 2.50 cumulative QPA, and must certify that the home school will accept the CAS courses in transfer. There is a one-time application fee of $25, and admission is only valid for one term. Students desiring enrollment for subsequent terms must resubmit certification from the home school. The deadline for applications is two weeks before the start of classes. For more information, contact the CAS Advising Center.

Summer admission of guest students is handled by the Office of University Summer Sessions. See the Summer Sessions section of this bulletin for information.

Postbaccalaureate Students

Students who have completed an undergraduate degree and wish to take additional undergraduate courses on a nondegree-seeking basis may apply directly to CAS. Most postbaccalaureate students take courses in order to facilitate a career change, as prerequisites for a graduate program, or for personal enrichment. Students must submit proof of the undergraduate degree received (either a copy of the diploma or a transcript showing the degree and the date it was awarded). The application deadline is two weeks before the start of classes. There is a one-time application fee of $25, and admission is valid for one calendar year. Students desiring enrollment for subsequent terms must submit a letter stating the reasons for which they are requesting an extension.

Accelerated High School Students

Accelerated high school students are high school juniors and seniors who take a maximum of two courses in CAS while continuing their high school program. They attend regular on-campus day classes with college undergraduates and are not identified in the classroom as high school students.

To participate, students must have the approval of their parents or guardian and their high school counselor or principal. Students may not take courses that are available to them in their high school curriculum. Depending on the course(s) selected, students may be required to take a placement test or two prior to registration.

The application includes sections that must be completed by parents or guardians and school officials and must be submitted along with other application materials. Applications for fall and spring terms must be submitted to the CAS Advising Center. The deadline is two weeks before the first day of classes. There is a one-time application fee of $25, and admission is valid for only one term. Students must resubmit certain specified application materials for subsequent terms. For more detailed information, contact the CAS Advising Center in 252 Thackeray Hall.

Applications for summer term must be submitted to the Office of University Summer Sessions. See the Summer Sessions section of this bulletin for information.

College in High School (CHS) Program

The College in High School Program offers qualified high school students throughout Western Pennsylvania the opportunity to earn University of Pittsburgh credits on their own high school campuses. Participating schools now offer approved University of Pittsburgh courses in chemistry, communications, computer science, French, Latin, mathematics, statistics, and English composition. The courses are taught by experienced teachers who have been certified through the appropriate University of Pittsburgh departments. All University regulations governing course registration, withdrawal, resignation, and tuition payment are enforced.

Students' grades are based on their performance on University examinations and recorded on University transcripts. Although the CHS program cannot govern the transfer credit policies of other institutions, the vast majority of CHS students receive advanced standing, elective credits, or both as a result of their successful participation in the program. For more information, contact the College in High School office in B-4 Thaw Hall.

Academic Integrity

As members of the University of Pittsburgh community, CAS students are expected to meet their obligation to exhibit honesty and to respect the ethical standards of the University community and of their chosen field of study in carrying out academic assignments. CAS students are therefore expected to familiarize themselves with the published rules and regulations governing academic integrity. For specific information, see Student Rights and Responsibilities.

The College of Arts and Sciences maintains an Academic Integrity Board, consisting of both faculty and students, for adjudication of grievances from faculty about student behavior and from students about faculty behavior. For more information, contact the CAS Office, 140 Thackeray Hall.

Grading Systems

The following section gives details on the way the University's grading system is used in the College of Arts and Sciences. For detailed information on the University's grading system, see Grading and Records.

CAS offers both the University's standard letter-grade option and the Satisfactory/Audit (S/N) option for students enrolled in most CAS courses. Students must select the S/N option by the deadline in any given term by completing a Grade Option/Audit Request form in the CAS office, 140 Thackeray Hall. Deadlines are printed each term in the Course Descriptions newspaper and the University *Schedule of Classes*. ***Note:*** *There are some formal limitations to the student's choice of grading systems, so students should check with an academic advisor before deciding to take a course S/N.*

An overview of the University grading system is provided in the front section of this bulletin. The following gives details on how some grades in the University's grading system are administered within CAS:

Audit (N Grade)

Students may choose to take a CAS course on an audit basis and receive an N grade on the transcript rather than a letter grade. Students who wish to audit a course must register for the course as usual and must then process a Grade Option/Audit Request form in the CAS office by the deadline. Deadlines are printed in the *Course Descriptions* newspaper each term. An audit grade does not count for credit toward graduation.

G Grades

The G grade is given only when students who have been attending a course and making regular progress are prevented by circumstances beyond their control from completing the course after it is too late to withdraw.

Students assigned a G grade must complete the course's requirements by the next fall or spring term in residence (or, in the case of students who are not in attendance the following term, within one calendar year). Otherwise, the privilege of completing the course is withdrawn, and the credits are lost.

I Grades

The I grade indicates that the work of the course for which it is awarded has not been completed due to the nature of the course, clinical work, or incomplete research. It is to be awarded only to students who have been doing the regular work of the course but who need more time than the term allows to complete the course work. That is, the extenuating circumstances ought to arise from the nature of the course work rather than from the student's personal difficulties (in which case a G grade is the appropriate one; see above). The student should complete the course requirements within one calendar year after the I grade is given.

Academic Honors

Outstanding students in CAS have the opportunity to be recognized for their academic achievement in several ways:

Dean's List

Early each term, CAS students whose grades in the preceding term indicate outstanding academic achievement are recognized on the Dean's List. To be placed on the Dean's List, a student must have earned at least 12 credits (not including courses taken on the Satisfactory/Audit option) with a term QPA of at least 3.50 and no grade lower than a C.

Graduation Honors

Those members of a CAS graduating class who have attained an outstanding scholastic record and have taken at least 60 letter-graded credits while a resident in CAS are graduated with honors. See Graduation with Honors section for other specific requirements.

Departmental Honors

Many departments offer an honors major. Successful completion of the honors major as well as normal graduation requirements leads to the awarding of the bachelor's degree with departmental honors. For detailed information, contact individual departments or see the departmental academic program information in this bulletin.

Phi Beta Kappa

The Phi Beta Kappa Society is the national honorary society for students in the liberal arts and sciences. Founded in 1776, the society has chapters only at the leading academic institutions in the United States. The University of Pittsburgh chapter was established in 1953 by charter from the United Chapter of Phi Beta Kappa. Membership in the society is regarded by many as the most prestigious honor that can be conferred upon students majoring in one of the liberal arts and sciences.

Candidates for membership are usually in their final term of study for a bachelor's degree. They must have received a QPA of at least 3.50 in courses that lead to both a broad and a deep understanding of liberal studies. The requirements for eligibility somewhat parallel those for a bachelor's degree from the College of Arts and Sciences but are more specific with respect to what courses may or may not be counted toward achieving candidacy. Membership is awarded by election by the active members of the chapter at the University of Pittsburgh, who also take into account the breadth of the interests of the candidates and their reputations in the community.

A detailed listing of the requirements for eligibility may be found in the CAS Advising Center, 252 Thackeray Hall.

Probation, Suspension, Dismissal

CAS systematically monitors students' academic progress. Students in CAS are required to maintain a cumulative QPA of 2.00 or above for each term of enrollment. Any student who has a cumulative QPA below 2.00 will automatically be placed on academic probation. Students on probation who still have a cumulative QPA below 2.00 after their next term of enrollment will be subject to suspension or dismissal. After being suspended, students are not eligible to re-enroll for one calendar year. Following suspension, students are required to apply for reinstatement at the CAS office. Students returning from academic suspension are reinstated on academic probation. Reinstated students are reviewed after each subsequent term of enrollment. If their cumulative QPA remains below 2.00, they will be subject to dismissal. Dismissed students are not eligible for reinstatement. Note: Probationary and suspended students are not eligible to earn credits at another institution toward a CAS degree.

In addition to maintaining a QPA of 2.00 or above, students are required to fulfill their algebra and English placement (Intensive Workshop in Composition, Workshop in Composition, or Seminar in Composition and Composition Tutorial) requirements within the first year of enrollment and Seminar in Composition within the first two years of enrollment. Students who do not complete these courses on schedule will be subject to suspension or dismissal. See the section on CAS Skills Requirements.

Probation and Eligibility for Financial Aid

The Office of Admissions and Financial Aid (OAFA) monitors financial aid eligibility. Students on probation should contact OAFA in Alumni Hall at 412-624-7488 for more information.

Credit System

The following section details the College of Arts and Sciences' rules regarding allowable credits and courses for students earning a degree in CAS:

Advanced Placement (AP) Credits

See Allowable Credits (Credit and Course Limitations).

Career Development and Noncredit Courses

Career development courses offered by the College of General Studies (numbered in the 6000s) and noncredit courses (numbered in the 4000s) may not be counted for credit toward a degree in CAS.

College Level Examination Program (CLEP) Testing

CAS does not accept CLEP general examination credits.

Courses Taken Elsewhere

CAS students in good academic standing (cumulative QPA of at least 2.00) may attend a summer or special session of another accredited institution in order to supplement their program, provided they receive prior approval from the CAS Office. Students should bring a bulletin from the school they wish to attend, with the appropriate course descriptions, to the CAS office. Students will not receive credit for courses taken without advance approval. Upperclass students (60 or more credits) may not take courses at two-year schools. Courses taken elsewhere are subject to the 18 non-CAS credit limitation and may not be a repeat of any course taken (passed or failed) before. A maximum of two courses (no more than eight credits) may be taken in a single period of enrollment elsewhere.

Credit by Examination

Each test for credit by examination must be arranged with the department teaching the course for which credit is desired. The examination must be in a specific course offered by the Faculty of Arts and Sciences (FAS). Departments set their own policies as to the specific courses for which students may request credit by examination, the time and type of examination, and the number of courses among those required for the major for which credit may be earned by examination. Normally, the examinations are administered during the first three weeks of the term.

Students wishing to earn credit by examination should first consult with the department in which the course is given and then obtain the requisite form from the CAS office. There is a $10 per credit fee payable to the Student Payment Center once the student obtains the form from the CAS office. This fee is nonrefundable. Credit by examination is open to all students. Questions should be directed to the CAS office.

Departmental Credits

No more than 60 credits may be taken in one department, and normally no more than 40 in a single department are considered desirable in a well-balanced program.

Duplication of Course Content

Except as noted in the *Course Descriptions* newspaper, a particular course may be taken for credit only once. Students also may not earn graduation credit for courses that substantially duplicate the content of courses taken previously. For example, credit cannot be earned for the following:

- Both a regular version of a course and an honors version of that course.
- Courses that are cross listed with a course the student has already taken.
- Courses taken under a new number if already taken under an old number.
- Certain specific courses that duplicate material and for which additional credit cannot be earned. The list of these courses is available in the CAS Office.

English Language Institute Courses

The following courses from the English Language Institute do not count toward a CAS degree: 0004, 0005, and 0006. LING 0007, 0008, and 0009 courses count toward the CAS degree but are not counted toward a linguistics major.

Enrollment in Graduate Courses

CAS students with sufficient preparation are encouraged to take advantage of the rich variety of graduate courses offered by the Faculty of Arts and Sciences (FAS). Credits earned in FAS courses may be used toward the CAS degree. Students should consult with the instructor of a course before registering.

Independent Study, Directed Research, Directed Reading, Internships, and Undergraduate Teaching

CAS students may count a total of 24 credits of independent study, directed reading, directed research, undergraduate teaching, and internships among the 120 credits required for a degree. Ordinarily, no more than six credits may be earned in any term in a single directed reading, directed research, or internship. Under certain conditions, students in good standing may register for a block of 15 credits of independent study. These credits are to be earned for work done within one academic term. A student may register for a 15-credit independent study term only once during his or her college career.

Agreement forms for independent study, directed research, directed reading, and internships, as well as specific information about eligibility, procedures, and guidelines, are available from major advisors and from the CAS office. For information about CAS internships, students should call 412-624-5428.

International Baccalaureate

CAS recognizes the International Baccalaureate (IB) Higher-Level Examinations and may grant advanced standing and/or credit for various fields for scores on the Higher-Level Examinations, which range from five to seven. Advanced standing is determined individually by subject according to departmental policy. Students should send the results of their IB examinations directly to the Office of Admissions and Financial Aid. No credit will be given for Subsidiary-Level Examinations.

Lower-Level Courses

Credit cannot be earned for courses taken after more advanced course work in the same field has been successfully passed with a C or higher if that advanced course work presumes the competence acquired in the more elementary courses. For example, credit cannot be earned for an algebra course taken after the successful completion of a calculus course.

Non-CAS Courses

A student may take no more than 18 credits of the 120 required for graduation in other schools of the University. This rule does not apply to graduate courses offered by the Faculty of Arts and Sciences (FAS). Restrictions on non-CAS courses apply also to courses taken by cross registration. The student who has doubts about the status of any course should check with the CAS office before registering.

Normal Credit Load

Any program in excess of 17 credits per term requires the recommendation of a CAS academic advisor and approval of the CAS office. For more information about credit loads, see Registration.

Physical Education

Students are not required to take any courses in physical education, but they are strongly urged to do so. Up to four credits of courses offered by the School of Education's Department of Health, Physical, and Recreation Education may be counted toward a CAS degree.

Reserve Officer Training Corps (ROTC)

Credits earned in military science (MILSC, Army ROTC), or naval science (Navy ROTC through cross registration at Carnegie Mellon University [CMU]) are not accepted toward a CAS degree with the following exceptions: AFROTC 0001, 0002, 0003, and 0004 and MILSC 0012, 0022, 0032, and 0042 may count toward graduation in lieu of physical education and recreation courses.

Special Note about Transfer Students/Transfer Credits

Previous course work for transfer students is evaluated by the CAS office with respect to CAS skills and general education requirements. Before initial registration, transfer students receive an Undergraduate Degree Requirement Evaluation indicating which requirements are already satisfied and which ones must be completed in CAS. Transfer students may be required to complete one or more placement tests to determine if some requirements have been met.

Courses from other colleges and universities are evaluated according to the following guidelines:

- Courses must be passed with a grade of C or better and must be earned at an institution accredited by the appropriate regional accrediting association. Courses that have reasonable counterparts in the CAS curriculum are eligible for transfer. Non-CAS credit is granted when there is no comparable course in CAS, but there is an equivalent course in another undergraduate school at the University of Pittsburgh. Only 18 non-CAS credits will count toward a CAS degree. When requested, students are responsible for supplying descriptions for courses taken elsewhere.
- A maximum of 60 credits can be accepted from accredited community colleges and two-year junior colleges. A maximum of 90 credits can be accepted from accredited four-year institutions. At least 50 percent of the credits required in a CAS major must be earned while enrolled in CAS.
- The number of credits granted for a given course cannot exceed the number awarded for the course on the transcript of the school where the course was taken or the number earned for the corresponding course in CAS. Credits earned on the quarter system will be converted into semester credits. A quarter credit is equal to two-thirds of a semester credit (e.g., five quarter-system credits equal three semester credits, and three quarter-system credits equal two semester credits).
- CAS accepts credits, but not grades, for transfer. Consequently, any courses that are accepted for transfer will be used as credit toward graduation, but will not be calculated into the student's QPA at the University of Pittsburgh.

Please contact the CAS Office of Student Records for information about transfer credit evaluation. Please note: All transfer credits are subject to re-evaluation when a student transfers from one school to another within the University of Pittsburgh.

Statute of Limitations

All of the credits required for a degree, whether earned in residence or transferred from another institution, must have been earned within 12 years prior to the date on which the degree is awarded. However, when given evidence that the previous courses still provide adequate preparation for courses yet to be taken and still represent a reasonable part of the total academic program, the CAS office may waive the limitation. In such cases, the waiver is for a specific period during which the program must be completed.

University External Studies Program (UESP)

CAS students may take a maximum of two UESP courses toward the CAS degree. For more information about UESP courses, see External Studies.

Adding and Dropping Courses

Generally, students enrolled in CAS are not required to have their academic advisor sign their add/drop forms. However, Student Support Services (SSS) students and student athletes must see an academic advisor before processing an add/drop. Additionally, all freshmen are strongly urged to consult an academic advisor before adding or dropping a course. See Adding and Dropping Courses for more information.

Withdrawal from Courses

Freshmen are required to see an academic advisor in CAS before withdrawing from any course. In addition, any student considering withdrawing from a basic skills course must first see an assistant dean.

CAS Advising

Academic advising in CAS is divided roughly into two halves: the freshman/sophomore years and the junior/senior years. Most CAS freshmen and sophomores, including new transfer students, are assigned to advisors in the CAS Advising Center, 252 Thackeray Hall. Students admitted to CAS through the student support services program are assigned to advisors in the academic support center office. (See Academic Support Center section for contact information.) All freshman/sophomore-level advisors have been specifically trained to work with beginning college students. They are familiar with and ready to discuss all CAS requirements, regulations, procedures, and academic majors and programs, as well as University-wide sources of support and assistance. In addition to answering questions and discussing academic plans, options, opportunities, course selection, and academic-related problems/issues (e.g., whether or not to add, drop, or withdraw from a course), advisors must sign students' registration forms before they can be processed.

CAS students who have not declared a major must see an academic advisor at least twice each term by appointment: once to review their progress, to discuss their academic plans and concerns, and to begin thinking about the next term; and a second time to actually select and register for their next term's courses. The first of these two meetings is scheduled at group sessions held the third week of September and January. Each student is responsible for arranging meetings with his or her advisor each term. CAS students traditionally declare their majors officially near the end of their sophomore year and are then assigned to an advisor in the department of their major. Departmental advisors have the more sophisticated information and in-depth knowledge to advise juniors and seniors in the intricacies of their major and their postgraduation plans.

Contact Information

University of Pittsburgh
CAS Advising Center
252 Thackeray Hall
Pittsburgh, PA 15260
Phone: 412-624-6444
Fax: 412-624-3707
www.advising.pitt.edu

Bachelor Degree Program Goals

The goal of the College of Arts and Sciences is to provide liberal arts and preprofessional education for undergraduate students that is grounded in scholarly excellence and that gives students the knowledge, understanding, analytical tools, and communication skills that they need to become reflective citizens within a diverse and rapidly changing world.

The curriculum of the College of Arts and Sciences is based on the belief that these educational goals for students are best achieved through a process that involves three elements:

1) the development of the foundational skills that will facilitate future learning;
2) exposure to the broad range of disciplinary approaches to subject matters, modes of thought and analysis found across the humanities, social sciences, and natural sciences;
3) and in-depth study in one or more major fields of disciplinary or interdisciplinary study that:
    - develops a facility and appreciation of the knowledge, modes of analysis, and critical thinking skills of the discipline;
    - offers students the opportunity to integrate and apply what they learned during the college years; and
    - continues the development of many of the foundational skills that are needed for postcollege life, work, and study; these include the ability to communicate effectively both orally and in writing, to use modern information technology effectively, and to think in quantitative terms.

Bachelor Degree Requirements

The following sections describe the general requirements for all majors offered by the College of Arts and Sciences:

Graduation Requirements

To graduate from CAS, students must earn at least 120 degree credits with a minimum 2.00 QPA. In addition, students must achieve a 2.00 QPA both in the major and in the minor or related area. Within the 120 credits, students must fulfill the College's curriculum requirements which are of three types: skills, general education, and requirements for a major and minor or related area (see Skills Requirements, General Education Requirements, and Requirements for Major sections below). Furthermore, students must earn at least half of the credits for the CAS major and the final 30 credits toward the CAS degree while enrolled as a CAS student.

Graduation Application

Students must file an application for graduation in the CAS office, 140 Thackeray Hall, before the end of the term preceding the one during which they expect to complete all requirements (i.e., a student who expects to graduate at the end of the spring term must apply before the end of the immediately preceding fall term; see the *Course Descriptions* newspaper each term for application deadline dates). This permits the CAS office to make a complete appraisal of the student's record before the student begins the work of the final term. Any deficiency discovered during the evaluation should be promptly corrected either in conference with the major advisor at registration or during the add/drop period in the final term. The caps, gowns, and hoods for use in commencement exercises may be purchased through the University of Pittsburgh Book Center.

Candidates for graduation are expected to appear in person at commencement exercises to receive their degrees; however, diplomas will be mailed.

Skills Requirements

Skills requirements help ensure that all students attain reasonable levels of competence in writing, algebra, and quantitative and formal reasoning. Certain skills requirements must be completed within the first or second year of enrollment, and others must be completed prior to graduation. Students are placed in or exempted from skills requirements based on certain achievement test scores, University of Pittsburgh Placement Test scores, or course work completed at other colleges and universities. Skills requirements are outlined below:

Composition Requirement

Writing placement scores are 1, 2, and 3. The following placements correspond to the scores:

1. Intensive Workshop in Composition

Students who score 1 are required to complete the six-credit Intensive Workshop in Composition course with a minimum grade of C- during their first year of enrollment in CAS. After completing the Intensive Workshop in Composition with at least a C-, students must then complete the Seminar in Composition by the end of their second year.

2. Composition Tutorial

Students who score 2 are required to complete the three-credit Seminar in Composition course and the one-credit Composition Tutorial during their first year of enrollment in CAS. The course and tutorial must be taken in the same term. A minimum grade of C- must be earned in Seminar in Composition and a Satisfactory grade (S) must be earned in the tutorial. Students who pass the tutorial but not the course will be required to repeat just the course. Upon successful completion of the Seminar in Composition, students may begin to take W courses.

3. Seminar in Composition

Students who score 3 on the English department's Writing Placement Exam, and those who score 600 or higher on the verbal section of the SAT, are required to complete a three-credit Seminar in Composition course with a minimum grade of C- by the end of the second year in CAS. Students who score 3 should not register for the Composition Tutorial. Upon satisfactory completion of the Seminar in Composition, students may begin to take W courses.

Exempts Seminar in Composition

Students who score 600 or higher on the verbal section of the SAT and 5 on the AP English test are exempt from the Seminar in Composition requirement and may begin taking W courses.

Note for international students: *International students whose native language is not English must take English proficiency tests before any decisions may be made regarding transfer credits for English composition taken at other institutions in the United States or abroad. Questions should be directed to the CAS office.*

Writing-Designated Courses (W Courses)

After completing the composition requirement, all students must complete two more advanced writing-designated courses prior to graduation. At least one W course must be satisfied through the department of the student's major.

Algebra

All students must demonstrate college-level competency in algebraic skills in one of the following ways:

- Scoring at least 600 on the SAT I mathematical reasoning section.
- Achieving sufficiently high scores on the CAS algebra placement test.
- Completing an approved college-level algebra or algebra-based course or courses with a grade of C- or better during the freshman year.
- Completing an approved computer programming course during the freshman year. This option should be selected only by students who do not plan to take additional math or math-related courses in the future.

Quantitative and Formal Reasoning

Prior to graduation, all CAS students are required to complete at least one approved quantitative and formal reasoning course in statistics, computer science, mathematics, formal logic, information science, or quantitative methods. A minimum grade of C- is required.

Note: *Students who receive credits for MATH 0220 (with a grade of C- or better) through the College in High School Program, an AP test, or the CAS calculus placement test automatically satisfy both the algebra and quantitative and formal reasoning requirements.*

Placement Tests

Placement tests are used primarily to determine basic skills requirements and to ensure that students are placed in appropriate courses. The tests are administered on campus during orientation, and some are administered at various off-campus locations prior to orientation. Since most of the tests determine the number of skills courses students will need to take, students should review and prepare as much as possible. Sample placement exams in writing, mathematics, and chemistry are available at www.pitt.edu/~caswww/advising/placement.htm.

Following are brief descriptions of placement tests taken by CAS students:

English Writing Placement Exam

This essay exam has been designed to measure students' ability to read and understand college-level material and to write a thoughtful, coherent response to it. Essays will be read and evaluated by members of the English department.

Foreign Language Placement Exam(s)

Foreign language placement exams are used to decide placement into foreign language courses for those students who have not satisfied the foreign language requirement while in high school or those who plan to continue study of a foreign language in their first term of enrollment in CAS. The language departments encourage students to prepare for the exams by reviewing first- and second-year foreign language texts.

Algebra Placement Exam

Students who have a 600 mathematical reasoning score on the SAT I are exempt from this exam. This exam is designed to determine whether students have acquired the algebraic skills considered by the Department of Mathematics to be sufficient preparation for college-level quantitative courses. Students are strongly urged to review for this exam by reviewing algebra textbooks.

Trigonometry Placement Exam

The Department of Mathematics requires a specific trigonometry score for placement into calculus and other courses requiring trigonometric functions.

Calculus Placement Exam

The calculus placement exam is for students who have studied calculus in high school and wish to be exempt from taking the first level of calculus in college or who wish to place into honors calculus courses. The Department of Mathematics strongly encourages students who wish to take this exam to review for the test.

Chemistry Placement Exam

The chemistry placement exam is designed to identify students who can register for the honors versions of General Chemistry and Foundations of Biology. (Note: This exam is also used by the School of Engineering to qualify for Honors Physics.)

The Department of Chemistry suggests that students who attempt this exam have an SAT I mathematical reasoning score of at least 500 and a minimum grade of a B in high school chemistry. Review of a high school chemistry textbook is suggested as preparation for the chemistry placement exam.

General Education Requirements

All students graduating from CAS must satisfy 14 general education requirements covering the prominent areas of arts and sciences such as foreign language, literature, music, art, philosophy, social science, history, natural science, and foreign culture/international courses. In the process of satisfying these requirements, students select from a broad range of approved courses. Descriptions of the general education requirements are available in the CAS Advising Center, 252 Thackeray Hall, and on the CAS Advising Web page at www.advising.pitt.edu.

Requirements for the Major

Each student graduating from CAS must fulfill particular requirements for an academic major. The most commonly selected major is a "departmental" major, concentrated course work in one of the college's approximately 30 departments. Some departments offer more than one major. Each department specifies the particular courses needed to fulfill its major(s). The requirements for each departmental major and other major options, such as interdisciplinary studies, are summarized below. Handouts available in the CAS Advising Center, 252 Thackeray Hall, and in the departments provide up-to-date and detailed information about each major.

Note: *Transfer students receive an evaluation of their previous course work indicating the equivalent University of Pittsburgh courses for which advanced-standing credits have been awarded. Equivalent CAS courses will meet requirements for the major where appropriate. Students who believe that a previous course not equivalent to a CAS course should meet a requirement for a major may petition the department to review that course.*

Related Area

Students must also earn at least 12 CAS credits (with a minimum QPA of 2.00) in a related area specified by the department of their major. The major department may choose to approve these 12 credits in a single department, thematic cluster, geographic grouping, or some other combination. Completion of the requirements for a certificate program usually fulfills the CAS requirements for a related area, at the discretion of the major department. No skills requirements courses (e.g., Seminar in Composition, algebra) may be used as part of a related area. Students should check with their departmental advisor for any approvals required to pursue a planned related area of study.

Minors

CAS students may substitute an approved structured minor for the related area. Students must complete the minor with a 2.00 QPA and indicate the minor on the application for graduation. Students who complete an approved minor will have it listed on their transcript, provided that the minor is indicated on the application for graduation. Half of the credits earned for the minor must be earned at the University of Pittsburgh. Following is a list of the minors currently approved:

- Applied Statistics
- Classics
- Economics
- English Literature
- French
- German Studies
- History
- Italian
- Japanese
- Linguistics
- Music
- Neuroscience
- Philosophy
- Physics
- Political Science
- Religious Studies
- Slovak Studies
- Sociology
- Studio Arts
- Theatre Arts

For specific information about these minors, contact the department offering the minor, contact the CAS Advising Center in 252 Thackeray Hall, or see the individual department listings in this bulletin.

Special Undergraduate Majors/ Advanced Study Opportunities

In addition to the individual majors detailed under Major and Minor Descriptions by Department, CAS students may choose to pursue a variety of academic programs leading to multiple majors, majors within more than one department, or majors that either prepare students for or offer advanced admission to graduate or professional programs at the University.

Double and Triple Majors

Students who meet the major requirements of two or three departments may declare, and have recorded on their transcript, a double or triple major, but they will earn only one degree. If one major leads to the BA degree and another to the BS degree, students must decide at graduation which degree they wish to receive. A maximum of six credits can overlap from one major to another.

Joint Departmental Majors

Several joint majors, constructed from the offerings of two departments, are available to qualified CAS students. Current joint majors include:

- Politics and philosophy, leading to a BA degree;
- Mathematics and economics, leading to a BA or BS degree;
- Mathematics and philosophy, leading to a BA or BS degree; and
- Africana studies and English literature, leading to a BA degree.

For requirements, see Major and Minor Descriptions by Department.

Interdisciplinary Studies Major

This option is available to qualified students whose academic interests are best pursued outside existing departmental programs. See Nondepartmental CAS Majors for requirements. Detailed information about this option is also available in handouts in the CAS Advising Center, 252 Thackeray Hall.

Double Degrees

Students in CAS may choose to simultaneously pursue more than one undergraduate degree, either within CAS (i.e., both a BA and a BS) or in another undergraduate school of the University. CAS also offers a joint degree program with the School of Engineering. In general, earning two degrees requires a minimum of 150 credits and completion of the curriculum requirements of both schools. Detailed information about these options is available in handouts in the CAS Advising Center, 252 Thackeray Hall.

Combined Degree Options

Some students may qualify for the professional school option, in which students who have satisfied the following requirements may receive a bachelor's degree from CAS upon successful completion of the first year of graduate study:

- Completion of 90 or more credits in CAS,
- Satisfaction of all skills and general education requirements, and
- Acceptance to a graduate professional school at the University of Pittsburgh (such as the School of Dental Medicine).

Students going on to other graduate schools (such as the Faculty of Arts and Sciences [FAS]) who have earned 96 or more credits in CAS and have been accepted into a graduate program may receive a bachelor's degree upon completion of the specified amount of graduate study. Detailed information about these options is available in handouts in the CAS Advising Center, 252 Thackeray Hall.

CAS/Business Dual Major Program

Qualified students may apply for admission to the CAS/ business program, which permits students to pursue an

arts and sciences major and an undergraduate business major simultaneously. Students may apply to the program after their first year at the University of Pittsburgh. Specific information about requirements and applications are available in the CAS Advising Center (252 Thackeray Hall) and the College of Business Administration (2100 Sennott Square). See Non-departmental CAS Majors for more information.

Preparation for Professional Programs of Study

Students interested in spending their junior and senior years in the University of Pittsburgh's professional Schools of Social Work, Health and Rehabilitation Sciences, Information Sciences, or Education normally spend two years in CAS taking necessary prerequisite courses and electives in preparation for professional study. Although freshmen are accepted directly into the Schools of Engineering, Nursing, and the College of Business Administration (CBA), it is possible for students who begin in CAS to transfer into those schools after one or two years. Students transferring to the School of Pharmacy generally leave CAS after two years. Detailed information is available in handouts in the CAS Advising Center, 252 Thackeray Hall.

Preparation for Graduate Professional Studies

Although CAS does not offer specific majors in prelaw, premedical, predental, or education, it is possible for students in CAS to complete all the necessary prerequisites for entry into these graduate professional schools while fulfilling their CAS degree requirements. Details are available in handouts in the CAS Advising Center, 252 Thackeray Hall.

Accelerated Law Admissions Program (ALAP)

The Accelerated Law Admissions Program (ALAP), open to any student enrolled in the College of Arts and Sciences, grants admission to the University of Pittsburgh's School of Law to those students who meet the ALAP's requirements. Students who enter the program complete their undergraduate major in three years, applying for admission to the School of Law during their junior year, and then go on to law school for another three years.

Students interested in the program are encouraged to declare a major early at the end of the first year in order to allow them to complete their undergraduate CAS majors by the end of their third year. Also, interested students are encouraged to take summer classes during their second year in order to reduce the credits to be completed in their third year. The requirements for the ALAP are as follows:

- Students must complete 102 credits by the end of their junior year.
- Students must take three writing-designated courses (rather than two) beyond the freshman writing requirement.
- The CAS requirement of 12 credits in a related area is waived for students in the ALAP.
- Students must take the Law School Admissions Test (LSAT) by the fall of their junior year. This would include the June, October, or December test.

Acceptance into the program is competitive, and only those students with above-average grades and competitive LSAT scores should apply.

Five-Year Programs

- BS in statistics and an MA or MS in applied statistics: This program is intended to give outstanding students interested in statistics the opportunity to progress quickly toward their educational objectives. Contact the Department of Statistics for details.
- BS in computer science and an MS in computer science: Exceptional students can earn an MS in computer science in five years and also can participate in a variety of experiential educational activities. Contact the Department of Computer Science for details.

Special Academic Opportunities/ Programs

The following special programs are available to CAS students:

Academic Support Center

The Academic Support Center (ASC) seeks to increase the admission, retention, and graduation of undergraduate students in the arts and sciences by providing counseling, academic advising, University orientation course, study skills, tutoring, peer mentoring, and monitoring of student performance. The ASC offers the following services:

- Tutoring is available for introductory calculus and statistics courses through both individual and group programs.
- The ASC also maintains a Tutor Directory, which is a campus-wide listing of tutors and assistance provided by departments, schools, and special support services (SSS).
- The Math Assistance Center (MAC), which is a part of the ASC, provides assistance to students enrolled in first-level algebra and trigonometry courses through faculty and undergraduate teaching assistant (UTA) office hours. The MAC is located in 322 Thackeray Hall.
- The ASC offers Study Skills Workshops, Individualized Study Skills, and various Study Skills Mini-Workshops for students who want to develop more efficient and effective ways of studying. Topics include suggestions for improving textbook reading, lecture note taking, memory, time management, and test-taking skills.
- Student Support Services (SSS) is funded by the U.S. Department of Education. It is designed to provide a holistic approach to student development and academic achievement. SSS counselors assist students with financial aid and registration procedures and academic and career planning. The SSS Academic Resource Center offers tutoring by faculty and upper-class students in mathematics and science.

- QUEST Undergraduate Research Program seeks to increase participation of African American and Hispanic students in the science- and mathematics-based disciplines and to influence these students to eventually pursue the PhD in scientific research. The program begins with a seven-week summer bridge program designed to prepare students for the rigorous work ahead through course work in chemistry and mathematics, research seminars, tutoring, and learning skills instruction. Each student receives a paid internship in a University of Pittsburgh research project, which is the cornerstone of the project. The internships give students the opportunity to experience hands-on scientific investigation under the mentorship of University of Pittsburgh faculty, postdoctoral fellows students, and advanced graduate students.

For more information on the Academic Support Center, please contact:
311William Pitt Union
412-648-7920
www.pitt.edu/~asc

Freshman Studies 0001 (FS1)

This one-credit course provides incoming freshmen in CAS an extended orientation to academic life and its relation to life goals by exploring the nature and value of a liberal arts and sciences education. The small class size enables the students, instructor, and undergraduate teaching assistant to discuss many of the issues that will have an impact on a successful college experience, such as negotiating the transition from high school to college, learning and study skills, academic integrity, computer-system use and library orientation, and educational and career goals. Students often participate as a class in University and city-wide cultural events, which gives students the opportunity to socialize beyond the classroom in a way that is valuable to their overall academic experience.

Office of Experiential Learning

The CAS Office of Experiential Learning is a clearinghouse for students interested in earning academic credit for undergraduate research, teaching, internship, and service learning experiences. While classroom and academic components are necessities to earning a college degree, experiential learning helps students to apply what they have been learning in school to "real-world" situations. By diversifying their education through experiential learning, students maximize their opportunities for the future. For further information please contact the Office of Experiential Learning in B-4 Thaw Hall or at www.pitt.edu/~oel.

Study Abroad

CAS students are encouraged to add an international dimension to their undergraduate education through study abroad. Credit may be earned toward the CAS degree through participation in one of several University of Pittsburgh programs or consortia-sponsored programs including Semester at Sea, Year in Japan, the Denmark International Studies Program, and studies at the Universidad de las Americas in Puebla, Mexico, or the Universities of Sheffield and Sussex in England, to name a few. Students may study in virtually any part of the world in these programs or others sponsored by most American or foreign institutions.

Before study abroad is undertaken, approval for credit must be obtained. The study abroad advisor provides program approval, and the CAS advisor in the department in which credit is sought and the CAS Advising Center must approve the course selections and credits. Students should have at least a 2.75 QPA before seeking permission from the CAS Advising Center to study abroad. In most cases, registration must be completed in the CAS Advising Center, 252 Thackeray Hall. Call the Study Abroad Office in room 802 William Pitt Union at 412-648-7413 or see www.pitt.edu/~abroad for more information.

Semester at Sea

The Semester at Sea program is academically sponsored by the College of Arts and Sciences and administered by the Institute for Shipboard Education. Each fall, spring, and summer semester as many as 650 undergraduates from the University of Pittsburgh and other institutions across the country study and travel around the world aboard the S.S. Universe Explorer, a passenger ship equipped as a floating university campus. Educational activities on land during port stays of four to five days in nine countries complement classroom instruction aboard ship. Recent itineraries have included visits to Brazil, Cuba, China, India, Japan, Kenya, Malaysia, Russia, South Africa, and Vietnam. For more information visit www.semesteratsea.com, e-mail info@semesteratsea.com, or call 1-800-854-0195. Visit the Semester at Sea Office in 811 William Pitt Union.

CAS Certificate Programs

Certificates are earned in addition to a major and may be used to satisfy the related area requirement, depending upon the major department chosen. Certificates typically require 18–24 credits. See below for summary information about certificate programs available to students through CAS. Other undergraduate certificate programs are available through the School of Engineering and the University Center for International Studies (UCIS); CAS students are encouraged to consider those certificates, too. Detailed descriptions of these programs are available in handouts in the CAS Advising Center, 252 Thackeray Hall.

American Sign Language Certificate

The Department of Linguistics offers an undergraduate Certificate in American Sign Language (ASL). This certificate program should lead students to: a high degree of proficiency in ASL, an understanding of the structure of the visual/spatial nature of ASL, and an understanding of important issues in deaf culture and education.

This certificate program could conveniently accompany various undergraduate majors such as linguistics or communication science and disorders. Additionally, the

ASL certificate could be pursued by students in other majors in order to increase their marketability after college.

The program uses the academic strengths and resources of the Department of Linguistics in the Faculty of Arts and Science and the Department of Instruction and Learning in the School of Education.

Currently, there is a limit of 20 students per academic year who can enroll in the ASL certificate program. For this reason, each applicant will be required to go through an evaluation process.

Please contact the Department of Linguistics or the Less Commonly Taught Languages Center for more information.

- **Requirements for Certificate in American Sign Language Prerequisites**
  - LING 0471 American Sign Language 1 (B or higher)
  - LING 0472 American Sign Language 2 (B or higher)
  - Successful performance on skills and knowledge evaluations
- **Required courses (18 credits)**

  Category 1:
  - LING 0473 American Sign Language 3
  - LING 0474 American Sign Language 4

  Category 2:
  - LING 1950: Introduction to Linguistics

  Category 3 (one of the following):
  - *LING 1950 is a prerequisite for the courses in Category 3 unless otherwise noted:*
  - LING 1720 Structures of Sign Languages
  - (LING 1950 can be taken concurrently with LING 1720)
  - LING 1773 Morphology
  - LING 1777 Syntax Theory
  - LING 1738 Linguistic Structures of English

  Category 4 (one of the following):
  - IL 2247 Structures of English and ASL
  - IL 2550 Language Development of Deaf and Hard of Hearing Students
  - IL 2584 Special Topics: Deaf Culture
  - IL 2546 Survey of Deafness and Deaf Education

  Category 5 (one of the following):
  - LING 1901 Independent Study
  - CAS 1900 Internship (supervised by a faculty member)

Children's Literature Certificate

Books written for children are among the best-loved and best-remembered of all works of literature. They also provide some of the most important early learning experiences. In recent years, books written for children have attracted increasing interest from scholars and students as well as parents, reviewers, educators, and publishers. Studying books written for children provokes many questions, and trying to find answers for those questions generates speculations which intersect with the interest and knowledge of many academic fields as varied as anthropology and politics, literary studies and child development, classics and history, communication studies, and psychology. Why are these early books remembered? What precisely is it about them that is recalled? Are fairy tales too violent? Do children need their own books? What is suitable reading for a child, and who is to make the judgment? How do children's books relate to films and TV?

The interdisciplinary Certificate in Children's Literature offers students an opportunity to bring together studies across a broad range of subjects. The program is individually designed to meet the student's particular interests and strengths. It provides a useful background for many areas of professional work and study, including teacher education, child development and child care, creative writing and illustration, child psychology, library science, graduate school, publishing, journalism, and bookselling. For more information on the study of children's literature at the University, see www.pitt.edu/~childlit/clwelcome.html.

Requirements for Certificate in Children's Literature

The certificate is a planned interdisciplinary sequence of at least 18 credits. The program director must also be consulted about the design of the student's individual course of study. The three required core courses for the certificate are:

- ENGLIT 0560 Children and Culture
- ENGLIT 0562 Childhood's Books
- ENGLIT 1645 Critical Approaches to Children's Literature

In addition to the core courses, students should, in consultation with the program director, design a course of study that constitutes the remaining 9 credits. Courses must be selected from an approved list of courses, available from the program director.

Conceptual Foundations of Medicine Certificate

The Department of History and Philosophy of Science's undergraduate certificate program in the conceptual foundations of medicine offers a group of related courses in medical ethics, in the nature of explanation and evidence in the biomedical sciences, and in social problems such as assessments of alternative forms of healthcare delivery. The program is likely to be of particular interest to premedical and preprofessional healthcare students, but is intended to appeal to all students interested in social and philosophical problems in the biomedical sciences. Completion of the certificate program fulfills the CAS requirement for a related area, although students should check with their major department. Students who complete the program receive a Certificate in Conceptual Foundations of Medicine, which is printed on the transcript. For more information, see www.pitt.edu/~hpsdept/under/cfm/cfm.html.

Requirements for Certificate in Conceptual Foundations of Medicine

The certificate requires 18 credits. It is expected that enrolled students will achieve at least a C grade in each of the required courses and at least a C+ QPA in the overall

certificate requirements. Students should apply to the program as early in their course work as possible. Normally, satisfactory completion of one course in the two-term core sequence HPS 0612 and 0613 is required for admission. These courses form the introductory sequence for the certificate. They may be taken in either order. The following states the course requirements for the certificate:

- HPS 0612 Mind and Medicine and HPS 0613 Morality and Medicine. HPS 0612 focuses on questions concerning the aims of medicine, its scientific status, and its relation to the natural sciences. HPS 0613 is an introduction to the ethical, legal, and social problems that are part of the modern practice of medicine. The focus throughout will be on the role of moral values in medical treatment.
- Two additional approved courses in two different departments dealing with social and conceptual issues in the biomedical sciences. A list of such approved courses is distributed by the Department of History and Philosophy of Science prior to registration each term. Courses are approved on a term-by-term basis.
- A two-term college-level course in biology, such as BIOSC 0150 and 0160 Foundations of Biology I and II.

Film Studies Certificate

Film is one of the major art forms of the 20th century, and its study has become an important part of a modern humanities education. At the University of Pittsburgh, the Film Studies Program offers a series of interdisciplinary courses concerning the history, aesthetics, theory, and production of cinema. The program provides courses in critical studies and (by special arrangement with Pittsburgh Filmmakers in Oakland) courses in film, photography, and video production.

The Film Studies Certificate is designed for the student who is majoring in another field but wishes to do some concentrated work in film studies. The certificate program is a planned, interdisciplinary sequence of six courses (18 credits) that provide the student with a broad introduction to the field of film studies. Receipt of a certificate in film studies is recorded on the student's transcript. Specific guidelines and distribution requirements for the program are listed below.

Requirements for Film Studies Certificate

Two courses (6 credits) are required:

- ENGLIT 0540 World Film History
  or
  HA&A 0820 World Film History (3 credits)
- ENGLIT 0530 Film Analysis
  or
  HA&A 0801 Film Analysis (3 credits)

Students, in consultation with the film studies advisor, must also choose four elective courses from any of these three categories (check with the advisor each term for an update of course listings):

- Category I: National Cinemas, Filmmakers
- Category II: Themes, Genres, Theory
- Category III: Film, Photography, Video Production*

**Note:* *With the exception of CAS 1900 Internship, all courses listed in category III are offered by special arrangement through Pittsburgh Filmmakers. Enrollments in these classes will be limited to those whose tuition is covered by CAS. They will be distributed on a first-come, first-served basis first to film studies majors, then to certificate students, and then to other full-time CAS students, all of whom must be in good academic standing. To apply for a seat in a Pittsburgh Filmmakers course, students must preregister with the film studies advisors (617-B Cathedral of Learning) two weeks before the first day of CAS registration. Students who fail to attend the first class of the term will automatically lose their seat. Students will not be permitted to take more than one course per term at Pittsburgh Filmmakers.*

Students can take a maximum of two courses in Category III. Two of the three categories of film courses must be represented on the student's transcript. For more information, please see www.pitt.edu/~filmst.

Geographic Information Systems Certificate

The Geology and Planetary Science Department offers a Certificate in Geographic Information Systems (GIS). GIS is a computer-based system that accommodates virtually any type of information about features that are referenced by geographical location. For example, a GIS database may include both location and attribute data, providing a spatial visualization capability for analyzing descriptive characteristics about geographical features, both natural and man-made. One of the most important benefits of GIS analysis is the ability to spatially interrelate multiple types of information stemming from a range of sources. Such computational manipulation of geographic data has become increasingly important in many areas of science, government, and industry. Students who demonstrate experience with computers in general, and GIS/image processing in particular, are at a distinct advantage when looking for jobs in geology, environmental science, city and regional planning, and engineering. This certificate is designed to provide students with the knowledge and skills needed for immediate success in GIS-related jobs.

Requirements for Certificate in Geographic Information Systems (GIS)

The program is open to any University of Pittsburgh student, including postbaccalaureate students (professionals seeking to expand their job-related computer skills). Approximately four terms (two academic years) will be required to complete this certificate program. It is therefore suggested that undergraduates begin no later than their junior year. A grade of C or better is required in all courses for successful completion of the certificate. GIS topics covered include the nature of geographic data, map projections, raster images, the basic elements of a GIS database, sources of data, and training in the Arc/Info software package. Students also

have the option of focusing on remote sensing theory and applications. Remote sensing (RS) topics include image analysis and processing; field validation of satellite and airborne datasets; GPS training; and the use of software packages such as ENVI, Erdas Imagine, ERMapper, and Trimble's Pathfinder Office.

Required core courses (6 credits):

- GEOL 1445/2449 GIS, GPS, and Computer Methods
- GEOL 1460 Remote Sensing of the Earth

Two elective courses may be chosen that have special relevance to the student's major or employment goals. Appropriate courses will be available from many different departments. Courses not on the following list may be selected contingent on approval by the certificate advisor.

Suggested elective courses (6 credits):

Lower level:

- GEOL 0030 World Physical Geography
- GEOL 0840 Earth Systems Science

1000 level:

- GEOL 1060 Geomorphology, prerequisites
- GEOL 1640 Geologic and Environmental Hazards, prerequisites
- BIOSC 1040 Ecological Management Summer Field Course, prerequisistes
- INFSCI 1022 Database Management Systems, prerequisites
  or
  INFSCI 1030 Information Storage and Retrieval, prerequisites

2000 level:

- GEOL 2446 Advanced GIS Systems Computer Methods, prerequisites
- GEOL 2460 Applied Remote Sensing and GPS Techniques, prerequisites

Independent Study (4 credits):

Students must demonstrate proficiency in the application of the techniques by completing a project under the supervision of a faculty advisor. Sufficient work must be performed to earn four independent study or directed research credits. Faculty from any department may serve as the advisor, but students are encouraged to work with faculty in their primary area of interest. Projects must use GIS and/or RS as a major tool and result in a published report/map/CD-ROM that describes the results of the research.

German Language Certificate

The Certificate in German Language consists of 18 credits of German courses beyond German 0002. Students in all schools of the University of Pittsburgh who want to achieve a high level of proficiency in German can obtain this certificate. It is designed to assist students to prepare themselves for international careers, internationally recognized proficiency exams, and internships in German-speaking countries.

Requirements for Certificate in Germanic Language

The certificate offers two tracks: one for the liberal arts and one for professional purposes. Courses should be taken in sequence.

German for the Liberal Arts

The following courses should be taken, in sequence, by students in this track:

- GER 0003 Intermediate German 1
- GER 0004 Intermediate German 2
- Two of the following: GER 1000 Reading Literary Texts, GER 1001 Writing in German, or GER 1002 German Phonetics
- One of the following: GER 1101 Advanced German 1: Media or GER 1102 Advanced German 2: Structures
- One of the GER 1200–1399 seminars taught in German

German for Professional Purposes

The following courses should be taken, in sequence, by students in this track:

- GER 0003 Intermediate German 1
- GER 0004 Intermediate German 2
- GER 1003 Professional German 1
- GER 1004 Professional German 2: Business German
- GER 1101 Advanced German 1: Media
- GER 1102 Advanced German 2: Structures

Nine credits may be transferred from study abroad programs in German-speaking countries in accordance with the credit transfer policy of the University of Pittsburgh. These credits have to be pre-approved by the director of undergraduate studies.

For more information, visit www.pitt.edu/~germanic.

Historic Preservation Certificate

Historic areas are not just buildings, but spaces and communities with pasts and futures. They require a variety of approaches to be understood, including the historical, anthropological, ethnographic, architectural, and art historical. They also require an awareness of a variety of complicated processes to preserve them, such as urban planning and administration, law, business and economics, and popular culture. The Certificate in Historic Preservation is intended to provide students with a framework of related courses in various disciplines so that they can expand their knowledge of this area of study and enhance their opportunities for further education and employment in the field.

Requirements for Historic Preservation Certificate

Students must complete 18 credits, distributed as follows, to be awarded the certificate:

- ANTH 1541 Special Topics in Archaeology: Cultural Resource Management

- Three core courses, one each from the following three departments (9 credits total):
  - Anthropology: ANTH 1540 Special Topics in Archaeology: Special Topics—Architecture ANTH 1591 Historical Archaeology, or HA&A 1910 Historic Preservation
  - History: HIST 1626 History of the U.S. Landscape or HIST 1665 History of the American City
  - History of Art Architecture: HA&A 1530 American Architecture 1: To Civil War or HA&A 1531 American Architecture 2: To Today
- Two courses chosen from among a list of anthropology, history, and history of art and architecture courses, unless the student is majoring in one of these three areas. Students in these three majors might need to take three courses from among the electives instead of the usual two, because a course that counts toward a major cannot simultaneously count toward this certificate. The list of electives is available from the CAS Advising Center.

Classes listed above as core course options for the certificate may also be chosen for electives. For example, if HIST 1626 History of the U.S. Landscape fulfills a core requirement in history, then HIST 1665 History of the American City can count as an elective.

Jewish Studies Certificate

The Jewish Studies Program is open to all students interested in the Hebrew language and the history and culture of the Jewish people and their contributions to Western civilization. In the historical courses, emphasis is on the interaction of the Jewish people with their neighbors, as well as the development of distinctive cultural and religious values. A certificate program is offered, and interdisciplinary studies options can be arranged to include courses in this program. Information is also available on opportunities for intensive study in Israel. The program in Jewish studies offers undergraduates the opportunity to supplement work in their own department or major with an interdisciplinary course of study in the area of Jewish studies. Completion of the certificate program fulfills the CAS requirement for a related area (although students should check with their major departments) and will be indicated on the transcript.

Requirements for the Jewish Studies Certificate

The certificate requires 18 credits. A maximum of 9 credits may be transferred from another institution, including study abroad. Credits are to be distributed as follows:

- Proficiency in the Hebrew language at the intermediate level JS 0025 Intermediate Hebrew 3 or higher
- Jewish studies: Two 1000-level courses selected from the following (or comparable courses):
  - JS 1100 Israel in the Biblical Age
  - JS 1222 Jewish Mysticism
  - JS 1225 Jewish Culture in Medieval Spain
  - JS 1230 Ashkenazi Jewry: Medieval Period
  - JS 1240 Sephardi Jewry: Medieval Period
  - JS 1250 (Modern Jewry)
  - JS 1252 History of the Holocaust
  - JS 1254 After the Holocaust
  - JS 1256 Modern Israel
  - JS 1257 Russian Jewry
  - JS 1260 Jews in the United States
  - JS 1266 Israel: State and Society, 1948–1988
  - JS 1640 Jews in the Islamic World
  - JS 1646 Rabbinic Approaches to the Non-Jewish World
- JS 1901 Independent Study
- Religious studies
  - At least one course focused on an alternative religious tradition offered by the Department of Religious Studies

Those interested in graduate study are strongly urged to acquire a knowledge of Hebrew and either French or German. Students should consult with the advisor in the Jewish Studies Program in order to register their interest in the certificate program and to plan their course of study, including the choice of an appropriate independent study project.

Medieval and Renaissance Studies Certificate

In spite of change through the centuries and variations of a regional and national character, the millennium preceding the deaths of Shakespeare and Cervantes in 1616 is marked by a coherence sufficient to justify considering it as a cultural entity, worthy of study for its humanistic qualities and for its importance in preparing the modern world. Some of the principal aims of the Medieval and Renaissance Studies Program are

- to identify and explore aspects of medieval and Renaissance cultures that are an important part of our own cultural heritage;
- to promote an understanding of our medieval and Renaissance ancestors through the investigation of the ways they faced the issues of their day, asked questions of their institutions, and were conscious of themselves and the world around them;
- to help students understand historical relativity by showing them how different periods and individuals have understood the Middle Ages and Renaissance in very different ways; and
- to provide the basis for an open-minded attitude toward any culture that is different from our own.

In consultation with a program advisor (who may be a member of the Executive Committee, one of the departmental representatives, or another faculty member specializing in the area), the candidate will define an area of interest and organize a program of courses in relation to it. In designing a certificate program, students are urged to keep in mind the aims of the program as described above. For more information, see www.pitt.edu/~medren.

Requirements for Medieval and Renaissance Certificate

At least 24 credits are required, of which a minimum of 18 must be earned in 1000-level courses. These courses are distributed in two broad categories:

- literature, music, and the visual arts
- history in its several aspects: intellectual, ideological, social, and economic (e.g., philosophy; religion; the history of science, institutions, and ideas)

A minimum of three 3-credit courses (or the equivalent) must be taken in each of these two areas. At least one general course focusing on the Middle Ages and at least one on the Renaissance are required. These courses may be chosen from courses offered by the Medieval and Renaissance Studies Program or from among approved departmental course offerings. Courses should not be chosen at random but should follow a pattern of interrelated studies. Finally, all certificate candidates should acquire a reading knowledge of a modern European language as early as possible. (The study of Latin is also suggested for those who plan to do graduate work in the field.)

Photonics Certificate

Photonics is one of the fastest growing high-tech industries in the world today. It includes optical communications (e.g., fiber optics, lasers, and infrared links), optical imaging (e.g., spy and weather satellites, night vision, holography, flat screen display, and CCD videocameras), optical data storage (e.g., CDs and CD-ROMs), optical detectors (e.g., supermarket scanners, medical optics, and nondestructive evaluation of materials), lasers (e.g., welding lasers, laser surgery, laser shows, and laser rangefinders), spectroscopy (e.g., chemical analysis and detection), and quantum optics (e.g., quantum cryptography, quantum computing, and single-photon detection).

Although the photonics industry is growing rapidly, photonics companies have a hard time finding qualified people because the interdisciplinary field crosses physics, physical chemistry, and electrical engineering. The photonics certificate program at the University of Pittsburgh will give this kind of cross-cutting experience and allow students to move directly into the photonics industry. The Certificate in Photonics will also serve as good preparation for graduate school in solid state physics, physical chemistry, or electrical engineering with optoelectronics emphasis.

Students in the certificate program will have opportunities for laboratory research with professors at the University of Pittsburgh and will also receive special job placement referrals.

Requirements for Certificate in Photonics

The certificate is designed to fit easily with a physics, chemistry, or electrical engineering major, but students with other majors can also earn the certificate.

To receive the certificate, students must have taken introductory physics (e.g., PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2 or PHYS 0475 and 0476 UHC Introduction to Physics for Science and Engineering 1 and 2), chemistry (e.g., CHEM 0110 and 0120 General Chemistry 1 and 2 or CHEM 0960 and 0970 General Chemistry for Engineers 1 and 2), and math up to and including vector analysis (MATH 0220 and 0230 Analytic Geometry and Calculus 1 and 2 and MATH 0240 Analytic Geometry and Calculus 3 and MATH 0250 Matrix Theory and Differential Equations), as well as a basic laboratory course as PHYS 0219 Basic Lab Physics for Science and Engineering or PHYS 0577 Modern Physics Measurements, CHEM 0250 and 0260 Introductin to Analytical Chemistry and Lab, or EE 0501 Digital Systems Laboratory. In addition, the following courses are required for the certificate:

- EE 0247 Semiconductor Device Theory (3 credits)
- EE 1232 Introduction to Lasers and Optical Electronics (3 credits)
- PHYS 0160 Electricity and Magnetism (3 credits) or EE 1259 and 1266
- PHYS 1225 Analog and Digital Electronics (3 credits) or EE 1201 Electronic Measurements and Circuits Lab and EE 1212 Electronic Circuit Design Lab
- PHYS 0368 Wave Motion and Optics (3 credits)
- CHEM 1410 Physical Chemistry 1 (Spectroscopy) (3 credits) and Chemistry 1430 Physical Chemistry Lab 1 (1 credit)
- CHEM 1250 Instrumental Analysis (3 credits) and CHEM 1255 Instrumental Analysis Lab (1 credit)
- Junior Photonics Seminar (two semesters, each 1 credit) (cross listed as PHYS 0177, CHEM 1750, or EE 1248)
- Photonics Theory 1 (3 credits) (cross listed as PHYS 1160, CHEM 1470, or EE 1240)
- Photonics Theory 2 (3 credits) (cross listed as PHYS 1161, CHEM 1480, or EE 1241)

For more information, see www.phyast.pitt.edu/~snoke/photonics.

Public and Professional Writing Certificate (PPW)

Writing plays a crucial role in the lives of people after they leave college, as students go on to work, volunteer, attend professional schools, and advocate for themselves and others. The PPW certificate focuses on writing that serves professional goals and/or the public interest. We invite students from across the University to focus on writing as a way to develop the critical writing, learning, and thinking skills necessary to all sectors of American professional life—private, nonprofit, and government.

Students who know that they will write extensively as professionals in law, medicine, the sciences, social work, public policy, international relations, business, or other fields are good candidates for the PPW certificate, as are students who are interested in advocacy and activism. Students contemplating graduate work should also find the course of study leading to the PPW certificate useful. The courses will allow students to work on significant writing projects in a range of venues. Students who have finished the certificate should have a compelling portfolio of work that they can show to prospective employers.

Students should expect to undertake rigorous intellectual work that will increase their precision as writers, deepen their facility with language and style, and deepen their engagement with writing as a form of social action that has consequences in the world. For more information, see www.english.pitt.edu/undergraduate/certificates/professional.htm.

All students who wish to enroll in the certificate program must submit a letter of intent (this would be the equivalent of an admission essay), a resume, and a writing sample. Please submit this information via campus mail or U.S. mail to Department of English, Public and Professional Writing Certificate, 526 Cathedral of Learning, Pittsburgh, PA 15260.

Requirements for Certificate in Public and Professional Writing

At least 18 credits are required to complete the PPW certificate; students must maintain a minimum B QPA in the three courses required by the certificate.

Students must take ONE of the following core courses:

- ENGCMP 0400 Written Professional Communication
- ENGCMP 0410 Writing in the Legal Professions, or
- ENGCMP 0420 Writing for the Public

After they have completed one of the core courses with at least a B, students must also complete, with at least a B, a minimum of TWO approved 1000-level courses (one of which may be a PPW internship) in the composition program.

The remaining 9 credits may come from designated intermediate and advanced course offerings in the English department. The list of designated courses that count toward the certificate will be given to students when they register for the program; designated courses will also be listed online in September 2003. Students may petition to have a relevant course count toward the PPW certificate.

Women's Studies Certificate

The interdisciplinary Women's Studies Program offers a certificate program and undergraduate and graduate courses in a variety of traditional disciplines and professional areas. Faculty and staff are committed to a feminist philosophy and to the social, political, and economic equality of the sexes. The curriculum is designed to be consistent with the feminist perspective by

- Including a primary focus on Women's experiences and gender roles,
- Regarding women and men of all races and ethnic groups as equal, autonomous members of society,
- Critically examining assumptions about women and men that are held by each academic discipline, and
- Testing these assumptions in view of empirical research and individual experience.

In order to implement these goals and to provide students with well-designed, substantive courses, the program takes care in evaluating both its curriculum and its teachers' performances. Students report that courses in women's studies help to fulfill both personal and practical needs. Many are preparing for jobs in fields such as medicine, business, teaching, social work, employee relations, counseling, law, or therapy and believe that a better understanding of themselves and/or of women generally will aid them in their future work. More than 100 instructors have created and taught courses in cooperation with the program. The Women's Studies Program accepts courses sponsored by individual departments within the University (course offerings are subject to change from term to term). Interdisciplinary courses, independent study, and internship opportunities are offered regularly by the Women's Studies Program. A separate Women's Studies Course Book is produced each term and is available from the Women's Studies Program office in 901 E Cathedral of Learning. For more information, visit www.pitt.edu/~wstudies or email the program at womnst@pitt.edu.

Requirements for Women's Studies Certificate

Students in CAS may apply for the Women's Studies Certificate. A minimum of 18 credits, completed with an overall QPA of 2.00 and distributed as follows, is required:

- An introductory, interdisciplinary course, such as WOMNST 0030/0031 Women and Society/Introduction to Women's Studies in the Social Sciences
- Two lower-level courses in two different disciplines cross listed with WOMNST, such as ENGCMP 0203 Seminar in Composition: Women's Studies, ENGLIT 0360 Women and Literature, PSY 0184 Psychology of Gender, or SOC 0446 Sociology of Gender
- Two upper-level courses in two different disciplines cross listed with WOMNST, such as ADMJ 1240, ENGLIT 1704 Women Novelists, HIST 1154 European Families, HIST 1660 and 1661 United States Women 1 and 2, PHIL 1340 Feminist Philosophy, PS 1204 Women in Politics, PSY 1110 Social Psychological Research, or SOC 1105
- One advanced women's studies course, an independent study, or an internship

Internship opportunities are available for students who wish to gain practical knowledge on the job at agencies dealing with issues directly concerning women. These internships must be supervised by a women's studies core faculty member, and the student must have taken at least 60 credits, be in good academic standing, and have completed four courses in women's studies (12 credits) relevant to the internship. Women's studies courses may serve as all or part of this 12-credit requirement.

Women's studies is an interdisciplinary field with opportunities for innovative research that students find especially challenging. Students are encouraged to do research on special topics or other projects in an independent study course (usually 3 credits per term). The prerequisite is at least two women's studies courses and at least two courses in the field appropriate to the independent study (these courses may overlap).

Honors and Awards

Numerous prizes and awards are given annually to CAS students for outstanding academic performance. All eligible candidates are automatically considered by committees set up to administer the various prizes, some of which are listed below. Some departments also give awards for outstanding students in the discipline. Information about these awards is available through the CAS Office or the individual departments (view an updated listing of scholarships, prizes, and honors in CAS):

- Abraham Pais Award, for excellence in technical writing
- ACS Award, for excellence in analytical chemistry
- ALCOA Excellence Award, for academic achievement in computer science
- Alison Bentley Kephart Memorial Fund in the Biological Sciences, for outstanding performance in freshman biological science courses
- American Institute of Chemists Award, for leadership in the undergraduate chemistry program
- Anita J. Curka Music Scholarship, for outstanding performance in voice or piano
- Averill Scholarship, for outstanding performance to a sophomore chemistry major
- Barry M. Goldwater Scholarship, for academic excellence
- Carrie T. Holland Scholarship, for outstanding academic achievement
- CAS Scholarship Fund, for outstanding academic achievement
- Challenge Scholarship, for educationally and/or economically disadvantaged students (historically minority) enrolled in the College of Arts and Sciences
- Chancellor's Undergraduate Merit Scholarships, for outstanding academic performance in high school
- Chinese Language Study Abroad Scholarships, for outstanding students in Chinese
- Class of 1937 Scholarship, to provide awards to outstanding students in the College of Arts and Sciences
- Composition Program Writing Award, for outstanding essays
- David Schenker Student Prize, for outstanding essay in economics
- Dorothy D. Burkhart Scholarship, for excellence in undergraduate work in English studies
- English Major Merit Award, funded by the Ketchum Brothers Educational Fund, for outstanding academic performance, especially in written and verbal skills, by a junior English major
- Exxon Excellence Award, for academic achievement in computer science
- Exxon Foundation Award, for academic achievement in computer science
- Foltin Memorial Prize, for outstanding performance in German
- Francis Wright Weber Memorial Award for Journalism, for excellence in news or feature writing
- Ford Scholarship Award, for outstanding third-year economics student
- Freshman Chemistry Achievement Award, for academic achievement in chemistry
- Friends of the Frick History of Art and Architecture Undergraduate Award, for excellence in history of art and architecture
- George Barnes Scholarship, for academic excellence by a student majoring in history
- Halliday-Resnick Award, for undergraduate research in physics
- Haskins Undergraduate Student Award, for academic excellence in the history of art and architecture
- Helen Faison Scholarships, for African American high school students who have outstanding records of scholarship and service
- Ira A. Messer Award, to the junior chemistry major with the highest scholastic average
- James B. Lawler Memorial Scholarship, for outstanding academic achievement
- James E. Bradler Award for Excellence in Undergraduate Research, for excellence in neuroscience research
- James Snead Memorial Essay Award, for an outstanding essay by an undergraduate
- Jean Hamilton Walls Undergraduate Research Award, for outstanding performance by African American and Hispanic students in the QUEST research program
- Jeff Maltz Undergraduate Scholarship in German Studies, for academic excellence
- John F. Haskins Student Award, for excellence in history of art and architecture
- Joseph C. Johnson Jr., Class of 1939, Endowed Scholarship, for outstanding academic performance by students who are residents of Washington County
- Joseph Gill Memorial Scholarship, for outstanding academic achievement
- Landmark Scholarship, for leadership and scholarship by a senior female and/or African American dual business major
- Lilly Summer Research Fellowship, for outstanding undergraduate research
- Lore B. Foltin Memorial Prize, for high academic achievement in the study of German language and literature
- Marietta d' Auberge Scholarship, for an undergraduate majoring in music
- Mary Louise Theodore Prize, given to several outstanding senior majors based on academic performance and involvement
- Maurice L. Golladay, for outstanding academic achievement
- Mellon Jazz Scholarship, for outstanding performance in jazz by a music major
- Merck Award, for highest ranked preprofessional chemistry major
- Mildred Miller Posvar Scholarship, for an outstanding senior majoring in music
- M.M. Culver Memorial Fund, for outstanding mathematics major
- Nationality Room Scholarships, for outstanding students studying abroad
- Nippon Sheet Glass Scholarships, for Japanese studies year in Japan and for the Chinese summer language scholarships
- Ossip Writing Awards, for excellence in undergraduate writing

- Outstanding Freshman Scholar Award, for excellent performance in biological science courses
- Outstanding Scholar Award, for excellent performance in biological science courses
- Outstanding Senior Award, for excellence in studio arts
- Phillips Medal, presented to the highest ranked senior chemistry major
- Pitt Connection Transfer Scholarships, for excellent academic performance by community college transfer students
- Pittsburgh Female College Memorial, for outstanding academic achievement
- Pittsburgh Supercomputing Center Summer Institute Award, for excellence in computer science
- Richard F. Zarilla Award, for educational needs in chemistry
- Richard T. Hartman Fund, for deserving students at Pymatuning Laboratory
- Rita R. and David A. Rossi Scholarship, for academic excellence and involvement in chemistry
- Robert John and Helen Marie Coster Scholarship, for outstanding academic achievement
- Robert Grierson Scholarship, for outstanding academic achievement
- Ruth L. M. Kuschmierz "Pitt in Germany" Scholarship Fund, in recognition of high academic achievement
- SACP College Award, presented to an outstanding graduating senior chemistry major
- Silverman Award, for interest in chemistry as a profession
- Studio Arts Merit Awards, for excellence in studio arts
- Teplitz Memorial Scholarship, for academic excellence in chemistry
- The Continental Promotion Group Inc. Scholarship, in recognition of high academic achievement in the study of German language and literature
- The Lubrizol Scholarship, for excellence and involvement in the undergraduate chemistry program
- Tung-Liand Hui Hsi Yuan Prize in CAS, for students of Chinese descent graduating summa cum laude from the College of Arts and Sciences
- Undergraduate Award in Analytical Chemistry, for excellence in analytical chemistry
- Undergraduate Research Fellowship, to support student involvement in independent research under the direction of a faculty mentor
- Undergraduate Teaching Fellowships, for joint student-faculty teaching projects
- University Scholarships, for outstanding academic performance in high school
- Valedictorian Scholarships, for academic excellence in high school, based on class rank
- Valspar Award, for excellence in chemistry
- Westinghouse Scholarship, for outstanding academic achievement in mathematics and science
- Wilma Binder Zeder Memorial Scholarship Fund, for outstanding academic performance
- Women's Studies Program Annual Research Prize Competition on Women and Gender, for undergraduate research

Declaring a Major

All students are required to complete a major or other upper-class option in addition to the skills and general education requirements. Students declare their major by filling out an Undergraduate Academic Program Change form available in the CAS Advising Center, 252 Thackeray Hall. Students normally declare their major during their fourth term of full-time study.

■ MAJOR AND MINOR DESCRIPTIONS BY DEPARTMENT

The academic departments in the College of Arts and Sciences offer more than 50 majors and 20 minors in the humanities, natural sciences, and social sciences as detailed below. For more complete information on these majors and minors, go to the CAS Advising Center, 252 Thackeray Hall (see www.advising.pitt.edu) or go to the individual department.

The following section is listed alphabetically by department with information on specific majors and minors given under the department(s) responsible for administering them.

AFRICANA STUDIES

Africana studies is the study, research, interpretation, and dissemination of knowledge concerning African American, African, and Caribbean affairs and culture. Using the tools of the social sciences and humanities, Africana studies examines the structure, organization, problems, and perspectives of Blacks in Africa and the African Diaspora. Africana studies also stresses analytical interpretations and policy prescriptions for social change in African American communities and in various African and Caribbean nations. The term Africana incorporates the three-tier interdisciplinary thrust of the department: African, African American, and Caribbean social sciences and humanities.

Africana studies prepares social science majors for advanced graduate studies in international affairs, education, social work, social policy studies, and legal and professional training. In the humanities, preparation in the creative arts and literature gears students to practical development in such fields as communication, teaching, theater, and dance. Africana studies occupies a central role in understanding modern American life and African and Caribbean linkages. As an interdisciplinary major, Africana studies offers intellectual paradigms for the multicultural approach to historical, political, and economic reality. It is also critical and corrective of the inadequacies, omissions, and distortions of mainstream American education leading into the 21st century. Africana studies is committed to producing liberally educated women and men with a lifetime dedication to working on African American, African, and Caribbean affairs. For more information on the major and the Department of Africana Studies, see the department's Web site at www.pitt.edu/~bjgrier/bj.htm.

Major Requirements

Students are urged to meet with the departmental advisor no later than the beginning of the junior year to confirm a plan of study. The Africana studies major requires the following:

A total of 30 credits with a focused area of study in either humanities or social science. A 2.00 quality point average for all Africana studies courses. (The department recommends that courses for the major not be taken on an S/N basis.) Students who choose social sciences must take two humanities courses: one lower level and one upper level. Students concentrating in the humanities are required to take two social sciences: one lower level and one upper level. All majors, regardless of concentration, are required to take three core courses:

- AFRCNA 0031 Introduction to Africana Studies
- AFRCNA 1068 Africana Senior Research Seminar
- AFRCNA 1900 Internship

For the CAS-required related area outside the major, students might consider completing the related area in a single department as it may lead to the option of a double major.

AFRICANA STUDIES-ENGLISH LITERATURE JOINT MAJOR

The joint major offers an especially coherent experience in interdisciplinary learning by bringing together Africana studies and English literature in two interrelated ways. Students get a rich and rigorous exposure to African and African Diaspora literature written in English through literature produced in the United States, Africa, Canada, Great Britain, and the Caribbean. Additionally, students examine some of the significant relationships between African and African Diaspora works and a range of English-language literary traditions.

The major is designed to expose students to important questions and traditions in literary interpretation and to offer them political, social, and cultural contexts for the literature they will be reading. Like most liberal arts majors, it helps students learn to think analytically and to make and assess arguments, skills that are important in many jobs and courses of graduate study. The major is also useful for prospective teachers who would be interested in developing and teaching curricula that include African Diaspora literature within other English-language traditions. Students who complete the joint major will have fulfilled most of the School of Education's undergraduate requirements for secondary education certification in English.

The Africana studies-English literature joint major requires 45 credits distributed as follows: four core courses, four literature courses from the Department of Africana Studies, three literature courses from the English department, and four electives, one of which must be a history course in the Department of Africana Studies. No more than two upper-division courses can count toward the major before a student has completed the introductory courses, and three of the required courses in each department excluding the core courses must be taken before a student enrolls in a senior seminar.

Joint Major Requirements

Required Core Courses (12 credits)

- AFRCNA 0031 Introduction to Africana Studies
- ENGLIT 0500 Introduction to Critical Reading
- ENGLIT 1900 Junior Seminar

One of the following:

- AFRCNA 1068 Africana Senior Research Seminar
- ENGLIT 1909 Senior Seminar
- ENGLIT 1910 Senior Seminar

Africana Studies Courses (12 credits)

Students must take four of the following:

- AFRCNA 0016 Introduction to African American Theater
- AFRCNA 0022 Introduction to African Literature
- AFRCNA 0050 Introduction to Africana-American Literature
- AFRCNA 1004 Africana World Literature
- AFRCNA 1006 World Literature in English
- AFRCNA 1020 African American Literary Criticism
- AFRCNA 1044 The African Novel
- AFRCNA 1049 Contemporary Caribbean Literature

English Literature Courses (9 credits)

Students must take three of the following:

- ENGLIT 1125 Renaissance in England
- ENGLIT 1150 Enlightenment to Revolution
- ENGLIT 1175 Nineteenth Century British Literature
- ENGLIT 1200 American Literature to 1860
- ENGLIT 1220 Emergence of Modern America
- ENGLIT 1325 The Modernist Tradition
- ENGLIT 1380 World Literature in English

Elective Courses (12 credits)

- Students must take four electives, choosing from courses in the Africana Studies and English departments. One of these electives must be a history course offered by the Department of Africana Studies. Students might also use electives to pursue more extensive work in particular areas of study, such as African, African American, British, Caribbean, or U.S. literature.
- Students interested in careers in education should pay particular attention to courses required by various School of Education certification programs.
- In light of the interdisciplinary and international character of the joint major, it would also be appropriate for students to petition to have a closely related course taught in a foreign language (for example, a course on Francophone-Caribbean literature in the Department of French and Italian Languages and Literatures) count as one of the electives toward the joint major.

ANTHROPOLOGY

Anthropology is concerned with how humans and human societies evolve, with the differences and similarities among human cultures, and with the cultural and biological basis for human behavior. Anthropology integrates a wide range of perspectives on human behavior, culture, and society. Students become familiar with the basic concerns of four subgroups of anthropology:

- Archaeology offers courses covering many geographic regions (Latin America, North America, and China), techniques of analysis, and issues in prehistory. Museum collections, internships in cultural resource management, and a summer field school provide opportunities for student involvement in archaeological work.
- Physical anthropology offers classes on evolutionary theory; evolutionary psychology; human genetics; osteoarchaeology; and human and nonhuman primate evolution, anatomy, morphology, and behavior.
- Cultural anthropology offers a wide variety of courses on cultural areas including the Pacific, Latin America, China, Japan, South Asia, Eastern Europe, and the United States. Classes provide cross-cultural studies of topics such as medical anthropology, food, social and political organization, gender roles, kinship, ethnicity and nationalism, folklore, religion, and conflict and violence.
- Anthropological linguistics offers courses on the nature of languages around the world, focusing on the relationship of language to other aspects of culture and society. Among the courses offered are Gypsy Language and Culture and Writing Systems of Ancient Mesoamerica.

For more information on the major and the Department of Anthropology, visit www.pitt.edu/~pittanth.

Major Requirements

The anthropology major requires the following:

- A total of 30 credits including the following required core courses:
  - ANTH 0780 Introduction to Cultural Anthropology
  - ANTH 0680 Introduction to Physical Anthropology
  - ANTH 0582 Introduction to Archaeology

The core courses satisfy prerequisites for most upper-level courses and are generally taken during the freshman and sophomore years.

- ANTH 1750 or one of the other designated undergraduate seminars.
- An additional 18 credits in any anthropology courses will complete the major. A student may choose to concentrate in one of the four subgroups listed above. One of the courses must be a writing (W) course offered within the department. Linguistics and quantitative analysis courses, though not required for the major, are highly recommended.

The requirements of the program make it possible to pursue a double major in many disciplines such as biology, psychology, religious studies, history, and geology. Students who declare anthropology as a second major should consult with the anthropology advisor as soon as possible to ensure fulfillment of anthropology requirements.

A major in anthropology also combines well with a variety of area studies certificate programs as well as with certificates in women's studies, global studies, geographic information systems, and historic preservation.

Students with an overall QPA of 3.25 or above and a QPA in anthropology courses of 3.50 or above will be graduated from the department with honors, pending the submission and acceptance of a paper representing substantial student research. The honors paper may be an expanded version of a paper from a course or may result from independent research. The successful completion of a linguistics course is recommended.

BIOLOGICAL SCIENCES

The study of biology seeks to understand the unifying processes that underlie the great diversity of living things. Biological knowledge has exploded as we enter the third millennium. We have sequenced the complete genomes of several organisms including our own. We have identified multipotent stem cells that hold the promise for new treatments for devastating disease. Even our understanding of the process of evolution, how life came to be on this planet, and how it is changing has been revolutionized by the techniques of molecular biology. Beyond providing an understanding of our place and our responsibilities within this world, biology can be a powerful tool to improve the condition of our planet and our fellow organisms.

The Department of Biological Sciences offers four majors, allowing students to explore the aspect of biology that most interests them. These majors are ecology and evolution, microbiology, molecular biology, and an individualized major in biological sciences. Completing any of these majors fulfills the basic science requirements required for graduate work in biology or in the health professions.

Biological Sciences

The biological sciences major is intended for the biology student who wishes to develop an individualized combination of courses at the advanced level. The student is free to plan a curriculum of great breadth or to choose an area of specialization not offered as a major by the department. Most of the undergraduates in our department choose the biological sciences major. This major is suitable for those planning a career in which general familiarity with biological topics is desirable, such as jobs in scientific journalism, biological and pharmaceutical supply industries, biological or medical research, scientific libraries and museums, or in any industry where the products or by-products have potential biological impact.

Completing the biological sciences major fulfills the basic science requirements for admission to medical, dental, and other health professional schools and to graduate biology programs.

Ecology and Evolution

The field of ecology explores the interactive web of organisms and the environment. Studies in evolution consider the processes by which modern organisms have developed from ancestral ones. The ecology and evolution major is a good choice for students interested in the fundamental questions of the evolutionary origins of organisms and how they survive, or don't survive, in their changing habitats. Within this major, students have the opportunity for in-depth study of the morphological and physiological adaptations of a variety of animals, plants, and microorganisms to a changing world; the ecological relationship of organisms from the individual to the global scale; and the mechanisms that drive evolutionary change.

Employment opportunities in the ecological sciences have increased greatly in recent years. There continues to be a demand for well-trained professionals at all levels (BS, MS, and PhD). Government environmental agencies, commercial consulting and testing firms, waste management industries, research laboratories, and natural history and science museums are just a few of the career opportunities. Graduate departments of ecology, evolution, environmental sciences, genetics, botany, public policy, and public health are actively seeking well-qualified students. The required chemistry, physics, and mathematics courses incorporate the requirements for admission to medical, dental, and other health professional schools. An ecology and evolution major could also serve as a springboard to a career in law.

Microbiology

Microbiology is the study of the biology of microscopic organisms, viruses, bacteria, algae, fungi, slime molds, and protozoa. The methods used to study and manipulate these minute and mostly unicellular organisms differ from those used in most other biological investigations. Recombinant DNA technology uses microorganisms, particularly bacteria and viruses, to amplify DNA sequences and generate the encoded products. Moving genes from one microorganism to another permits application of microbial skills to solve medical and environmental problems. Many microorganisms are unique among living things in their ability to use gaseous nitrogen from the air or to degrade complex and resistant macromolecules in such materials as wood. By rearranging the genes that control these and other processes, scientists seek to engineer microorganisms that will process wastes, fertilize agricultural land, produce desirable biomolecules, and solve other problems inexpensively and safely.

Microbiologists pursue careers in many fields, including agricultural, environmental, food, and industrial microbiology; public health; resource management; basic research; education; and pharmaceuticals. Jobs in all these fields are available at the BS level as well as the MS and PhD levels. The microbiology major also incorporates the requirements expected for admission to medical, dental, and other health professional schools and to graduate schools in microbiology, molecular biology, biochemistry, and related disciplines.

Molecular Biology

Molecular biology emphasizes the study of molecules that make up an organism and the forces operating among these molecules. Increasingly, molecular biologists can also explore the genetic control of these molecules and thus define the developmental, cellular, and subcellular changes that occur during the dynamic processes of life. Virtually every question, whether in biochemistry, cell biology, developmental biology, or some other biological discipline, applies molecular biology, often as the prime approach, in its solution. Biochemical and molecular developments have revolutionized biological research, fueling the explosive growth in the biotechnology industry and rapid increase of molecular medicine.

The molecular biology major, with its two tracks (biochemistry or cell and developmental biology) provides a strong background for many science careers. Both tracks incorporate the requirements expected for admission to medical, dental, and other health professional schools and to graduate schools in biochemistry, cell and molecular biology, and related disciplines. Positions for molecular biologists at the BS, MS, and PhD levels are available in the biotechnology industries as well as in universities, medical schools, hospitals, government laboratories, research institutes, and public health institutions.

For more information on the Department of Biological Sciences and the majors it offers, see www.pitt.edu/~biology.

General Requirements

Students in all four majors within the Department of Biological Sciences must follow general rules and fulfill certain general requirements in addition to those in their specific major:

- A total of 32 credits in biology must be taken (see specific course requirements for each major below). All biology courses taken for the major must be completed with a C or better. If a C- or lower is earned in a biology elective course that is not repeated, the course will be used in calculating the overall QPA in the major but will not be counted as part of the 32 credits required for the major.
- Corequisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including
- CHEM 0110 and 0120 General Chemistry 1 and 2, includes labs,
    - CHEM 0310, 0330, 0320, and 0340 Organic Chemistry 1 and 2 and labs,
    - MATH 0220 Analytic Geometry and Calculus 1,
    - Either MATH 0230 Analytic Geometry and Calculus 2 or STAT 1000 Applied Statistical Methods, and
    - Either the algebra-based physics, PHYS 0110 and 0111 Introduction to Physics 1 and 2, or the calculus-based physics, PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2.
- A minimum QPA of 2.00 must be maintained in all

biology courses and in the combined corequisite courses. The S/N option may be used for only one biology course and for any of the corequisite courses.
- The CAS-required related area is fulfilled by the corequisite courses in chemistry. Departmental writing (W) courses may be selected once the major is declared. Opportunities for faculty-sponsored directed research and internship experiences are available and strongly encouraged. Academic credit awarded from the departmental W, directed research, and internship courses count as credit towards graduation, but not in determining the 32 biology credits required for the major. Students interested in departmental honors should contact department advisors for information.
- University Honors College equivalents for any of the above courses are accepted. Credit by examination is available only through appropriate AP scores for equivalents to BIOSC 0150, 0050, 0160, and 0060 Foundations of Biology 1 and 2 and labs.
- Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.pitt.edu/~biology.

Biological Sciences Major
Biology Course Requirements

Completion of the biological sciences major requires a total of 32 credits in biology, including

- 17 credits of required courses:
  - BIOSC 0150 and 0160 Foundations of Biology 1 and 2
  - BIOSC 0050 and 0060 Foundations of Biology Lab 1 and 2
  - BIOSC 0350 Genetics
  - BIOSC 0370 Ecology or 1130 Evolution
  - BIOSC 1000 Biochemistry
- A minimum of 15 credits of upper-division courses, which must include two labs or one lab and one field course. Students may begin to take elective courses when they have completed the appropriate prerequisite courses; for example, some upper-division courses have only 0150 and 0160 as prerequisites whereas others have additional requirements.

Ecology and Evolution Major
Biology Course Requirements

Completion of the ecology and evolution major requires a total of 32 credits in biology, including

- 25 credits of required courses:
  - BIOSC 0150 and 0160 Foundations of Biology 1 and 2
  - BIOSC 0050 and 0060 Foundations of Biology Lab 1 and 2
  - BIOSC 0350 Genetics
  - BIOSC 0370 Ecology
  - BIOSC 0390 Ecology Lab
  - BIOSC 1000 Biochemistry
  - BIOSC 1130 Evolution
  - BIOSC 1320 Population Biology
  - BIOSC 1550 Ecology and Evolution Seminar
- A 3-credit upper-division field course offered during the summer at the Pymatuning Laboratory of Ecology (PLE) or an equivalent site pre-approved by the department.
- An additional 4 credits of upper-division elective courses.

Microbiology Major
Biology Course Requirements

Completion of the microbiology major requires a total of 32 credits in biology, including

- 26 credits of required courses:
  - BIOSC 0150 and 0160 Foundations of Biology 1 and 2
  - BIOSC 0050 and 0060 Foundations of Biology Lab 1 and 2
  - BIOSC 0350 Genetics
  - BIOSC 0370 Ecology or 1130 Evolution
  - BIOSC 1000 Biochemistry or 1810 and 1820 Macromolecular Structure Function and Metabolic Pathways
  - BIOSC 1570 Microbiology Seminar
  - BIOSC 1850 Microbiology
  - BIOSC 1860 Microbiology Lab
  - BIOSC 1865 Microbial Physiology
- In addition, 6 BIOSC credits must be taken. These are chosen from a selected list of microbiology electives, including at least one lab or field course. Students may begin to take elective courses when they have completed the appropriate prerequisite courses.

Molecular Biology Major
Biology Course Requirements

Completion of the molecular biology major requires a total of 32 credits in biology, including

- 20 credits of required courses:
  - BIOSC 0150 and 0160 Foundations of Biology 1 and 2
  - BIOSC 0050 and 0060 Foundations of Biology Lab 1 and 2
  - BIOSC 0350 Genetics
  - BIOSC 1810 Macromolecular Structure Function
  - BIOSC 1820 Metabolic Pathways
  - BIOSC 1940 Molecular Biology
- In addition, students select one upper-division elective (either BIOSC 0370 Ecology or any BIOSC course numbered above 1010) and complete the course work in one of the following two tracks:

Biochemistry Track
- BIOSC 1470 Biophysical Chemistry or CHEM 1410 Physical Chemistry 1 and 1420 Physical Chemistry 2
- BIOSC 1580 Biochemistry Seminar
- BIOSC 1830 Biochemistry Lab
- BIOSC 1950 Molecular Genetics Lab

Cell and Developmental Biology Track

- BIOSC 1500 Cell Biology
- BIOSC 1520 Developmental Biology
- BIOSC 1560 Cell and Developmental Biology Seminar
- Two laboratories selected from among
  - BIOSC 1510 Cell Biology Lab
  - BIOSC 1530 Developmental Biology Lab
  - BIOSC 1830 Biochemistry Lab
  - BIOSC 1950 Molecular Genetics Lab

CHEMISTRY

Chemistry, as a central science, is involved in natural processes occurring in living things, the earth, the oceans, and the atmosphere. The chemical industry provides materials to feed, clothe, and house mankind; drugs to combat disease; and processes to provide energy. Chemistry plays a role in high technology fields such as molecular biology, microelectronics, drug design, and ceramics.

The American Chemical Society (ACS)-certified chemistry degree includes core chemistry courses and electives. Special options are available for students with specific interests in combining chemistry with other subjects, such as bioscience, business, communication, computer science, education, and polymer science. These options allow students to take additional courses that provide an in-depth introduction to the subject of choice and are directly relevant to individual career goals.

The Bachelor of Science degree in chemistry prepares students for a career in business or industry or for advanced study in chemistry. Combined with core biology courses, the chemistry major is frequently selected as the preferred major for admission to the graduate health professions, including medical and dental school. In combination with an education option, the chemistry major prepares students for a certification program leading to a career in secondary science teaching. Chemists at all levels of training have a wide variety of industrial and corporate career opportunities in agricultural chemistry, food chemistry, environmental science, petrochemicals, pharmaceuticals, semiconductors and electronics, and fine chemicals, as well as in basic research. Many opportunities are available for chemistry majors with skills in business (sales, technical marketing, management), communications (technical writing, journalism), and computer science (programming, database management, information science). For more information on the ACS-certified degree and degree options as well as the Department of Chemistry, see www.chem.pitt.edu.

Major Requirements

The requirements for the ACS-certified major in chemistry are as follows:

- These chemistry courses must be taken:
  - CHEM 0110 and 0120 General Chemistry 1 and 2 or 0710 and 0720 UHC General Chemistry 1 and 2
  - CHEM 0250 and 0260 Introduction to Analytical Chemistry and Lab
  - CHEM 0310 and 0320 Organic Chemistry 1 and 2 or 0730 or 0740 UHC Organic Chemistry 1 and 2
  - CHEM 0330 and 0340 Organic Chemistry Lab 1 and 2 or CHEM 0330 and 0750 Organic Chemistry Lab 1 and UHC Organic Lab 2
  - CHEM 1130 Inorganic Chemistry
  - CHEM 1140 Advanced Inorganic Laboratory
  - CHEM 1250 and 1255 Instrumental Analysis and Lab
  - CHEM 1410 and 1420 Physical Chemistry 1 and 2
  - CHEM 1430 and 1440 Physical Chemistry Lab 1 and 2
- Corequisite courses must be taken in math and physics:
  - MATH 0220, 0230, and 0240 Analytic Geometry and Calculus 1, 2, and 3
  - PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2
  - PHYS 0219 Basic Lab Physics Science and Engineering
- For ACS certification, the elective course must be a course in biochemistry (BIOSC 1000 Biochemistry or BIOSC 1810 Macromolecular Structure Function).
- At least 2 credits must be selected from an approved list of chemistry or science electives.
- The chemistry major must earn a 2.00 QPA in all departmental courses. Chemistry majors may use the S/N option in all required physics and mathematics courses and in CHEM 0110 and 0120 General Chemistry 1 and 2.

Students who complete the requirements of the chemistry major automatically complete the requirements for a related area in mathematics. To graduate with departmental honors, the student must have an overall QPA of at least 3.00, have a QPA of at least 3.25 in required chemistry courses, earn 2 credits in CHEM 1710 Undergraduate Research, and earn 1 credit in CHEM 1711 Undergraduate Research Writing Practicum.

The chemistry department offers options in bioscience, business, communications, computer science, education, and polymer science. Each chemistry option allows for a waiver of CHEM 1440 Physical Chemistry Lab 2, CHEM 1140 Advanced Inorganic Chemistry, and the 2-credit science elective required for the ACS-certified degree. Specific information on the options program is available from the department.

CLASSICS

Classics is an interdisciplinary program devoted to the study of the ancient Greek and Roman civilizations. Students may focus on the classics language track or the classical civilization track. Besides the sequences in the Greek, Latin, and Sanskrit languages, the department offers courses in Greek and Roman literature (including comparative literature), mythology, linguistics, history, culture, and philosophy.

The classics language track requires study of texts in the original languages, while the classical civilization track makes use of these same texts in English translations. Both classics tracks qualify graduates for appropriate careers in teaching, but can also be used as preparation for nonclassical academic and professional disciplines such as business, law, and medicine. The study of classics provides a background for the study of Romance and other languages, assists in the proper use of English, and underlies any understanding of Western civilization. For more information on the major and the Department of Classics, see www.pitt.edu/~classics/index.html.

Major Requirements

The requirements for the major, specific to the major track chosen, are:

The Classics Language Track: Greek and Latin

Thirty credits in language courses are required, including either GREEK 1700 Greek Prose Composition or LATIN 1700 Latin Prose Composition and at least 6 credits in Greek or Latin courses numbered 1300 or above. Classics majors may emphasize one language more than the other if they wish, but every student is required to take at least one year of Greek and at least one year of Latin. The department recommends courses offered by classics and other departments in ancient archaeology, art, history, language, literature, philosophy, religion, and science, as well as courses in later cultures (medieval, Renaissance, or modern) influenced by the classical tradition.

The Classical Civilization Track

Required courses for this track are offered by, or cross listed with, the classics department. The courses for the major will be distributed as follows:

- Two courses in Greek, Latin, or both;
- Two survey courses in Greek and Roman civilizations;
- One course from each of three different areas, chosen from archaeology and art, culture, history, language, literature, philosophy, religion, and science; and
- Three courses in an approved area of concentration.

The general rules and requirements for the classics major, regardless of the track chosen, are as follows:

- The classics major requires a minimum of 30 credits with an overall 2.00 QPA in courses counting toward the major. A maximum of two courses may be taken toward the language track major under the S/N option. Students in the civilization track major may take a maximum of four courses under the S/N option.
- Except for placement by examination in the language sequences, credit by examination is generally not granted, but the department will consider students with special circumstances.
- Students may either enroll in one of the W courses offered by the department or arrange with the instructor of an upper-level course for the addition of one credit of writing practicum.
- For the CAS-required related area, the classics department recommends other departments' courses in ancient Greek and Roman archaeology and art, history, linguistics, literature, philosophy, religion, and science.

Students have combined a major in classics with a second major or certificate such as anthropology, biology, communication, computer science, history, history of art and architecture, history and philosophy of science, nonclassical languages and literatures, psychology, and women's studies. Students planning graduate study in classics may be required to obtain reading competency in German, French, or Italian. Such study might begin during the course of completing the undergraduate major or may be undertaken in graduate school.

Majors who have reached the end of the junior year with a QPA in departmental courses of 3.50 or higher may, in conjunction with a senior-level course, write an honors essay. Acceptance of the essay by the department will qualify the student for graduating with departmental honors in classics or classical civilization.

Minor Requirements

The department offers two types of minor tracks, one in classics (Greek and/or Latin), and one in classical civilization. The classics minor consists exclusively of courses in Greek and/or Latin. For the classical civilization minor, no language courses are required, although language courses may be counted if the student wishes.

For advice on alternative plans, please consult with the undergraduate advisor.

Classics Track

LATIN 0010	Beginning Latin 1	5 credits
LATIN 0020	Beginning Latin 2	5 credits
LATIN 0210	Intermediate Latin: Prose	3 credits
LATIN 0220	Intermediate Latin: Verse	3 credits

OR

GREEK 0010	Beginning Ancient Greek 1	5 credits
GREEK 0020	Beginning Ancient Greek 2	5 credits
GREEK 0210	Intermediate Greek: Prose	3 credits
GREEK 0220	Intermediate Greek: Verse	3 credits

Classical Civilization Track (minimal languages)

Fifteen credits in classics, Greek, or Latin courses, including at least one survey course in Greek civilization or history (3 credits), one survey course in Roman civilization or history (3 credits), and one course with a literary or textual component (3 credits). Any Greek or Latin course may count toward the literary/textual requirement.

COMMUNICATION

The study of communication is one of the oldest but still most contemporary of disciplines. The field examines important questions about society, communication, and persuasion in a way that combines the best of the ancient liberal arts tradition with the critical attention to the newest media technologies. In courses such as persuasion, argument, interpersonal communication, political rhetoric, rhetoric of science, nonverbal communication, history of media, media criticism, and television and society, our faculty offer diverse views on the roles of communication, media, and rhetoric in our lives.

A degree in communication is not vocational in design, although many of the Department of Communication's graduates hold important positions in industry, education, the media, government, law, and various other professions. An understanding of communication as a human activity, as defined above, makes the department's graduates attractive candidates when seeking employment or obtaining admission to graduate programs. For more information on the major or the Department of Communication, see www.pitt.edu/~website/communication.

Major Requirements

The communication: rhetoric and communication major requires the completion of 33 credits with a grade of C or better in each course (if the course is to count toward the major). The distribution of courses is

1. Three core courses (all required). Each is a prerequisite for a specific upper-level course.

    - COMMRC 0300 Communication Process
    - COMMRC 0310 Rhetorical Process
    - COMMRC 0320 Mass Communication Process

2. Two skills courses

    - COMMRC 0520 Public Speaking and one of the following:
    - COMMRC 0500 Argument, 0510 Debate, 0530 Interpersonal Communication, 0540 Discussion, or 0550 Speech Composition

3. Six upper-level courses that focus on specific topics or contexts of communication. Since these courses require substantive research and writing components, completion of the composition requirement is a prerequisite.

    - COMMRC 1101 Evidence
    - COMMRC 1102 Organizational Communication
    - COMMRC 1103 Rhetoric and Culture
    - COMMRC 1104 Political Communication
    - COMMRC 1105 Television and Society
    - COMMRC 1106 Small Group Communication
    - COMMRC 1109 Nonverbal Communication
    - COMMRC 1110 Theories of Interpersonal Communication
    - COMMRC 1111 Theories of Persuasion
    - COMMRC 1112 Theories of Rhetoric
    - COMMRC 1113 African Americans and Mass Media
    - COMMRC 1114 Freedom of Speech and Press
    - COMMRC 1115 African American Rhetoric
    - COMMRC 1116 Rhetoric of Cynicism and the Counter Culture
    - COMMRC 1117 20th-Century Public Argument
    - COMMRC 1118 Presidential Rhetoric 1
    - COMMRC 1119 Presidential Rhetoric 2
    - COMMRC 1120 Rhetoric of the Cold War
    - COMMRC 1121 History of Mass Media
    - COMMRC 1122 Media Criticism
    - COMMRC 1123 Rhetorical Criticism
    - COMMRC 1125 Media Theory
    - COMMRC 1126 Media and Consumer Culture
    - COMMRC 1142 Theories of Modern Rhetoric
    - COMMRC 1143 Knowledge, Power, and Desire
    - COMMRC 1145 History of Rhetoric
    - COMMRC 1147 Rhetoric of Science
    - COMMRC 1148 Rhetoric and Human Rights
    - COMMRC 1730 Special Topics in Communication
    - COMMRC 1731 Special Topics in Rhetoric
    - COMMRC 1732 Special Topics in Mass Communication

The major also has the following rules and requirements:

- The Department of Communication offers three special project courses (not required). COMMRC 1710 Senior Thesis in Communication requires a QPA of 3.00 for enrollment; COMMRC 1900 Communication Internship requires a QPA of 2.75 and mandatory seminar attendance; COMMRC 1901 Independent Study requires a QPA of 3.00. Only COMMRC 1710 counts toward the major. The others will fulfill elective credits.
- Although any department could be a related area, past majors often have selected political science, sociology, business, English writing, psychology, anthropology, or history. Students who plan to do graduate work in communication are advised to do additional work in a foreign language.

COMPUTER SCIENCE

The Department of Computer Science (CS) of the University of Pittsburgh was established in 1966, which makes it one of the oldest such departments in the country. The Bachelor of Science degree program was begun in 1974 with the following objectives: to provide an opportunity for students to focus their educational efforts on computer science as a discipline; to prepare students for employment and positions of responsibility in an increasingly computer-oriented world; and to prepare students for graduate study in computer science.

The curriculum for the BS degree program is dependent on a set of required core courses followed by elective advanced

courses. Four core courses provide an introduction to the fundamental areas and to the basic concepts of computer science. These courses include the study of modern languages such as JAVA. Also included is a careful investigation of fundamental problem-solving techniques used to solve a variety of computational problems. In addition, the computer science major is required to complete eight upper-level courses, three of which are required. The remaining five courses are selected by the student from major areas such as theory, programming, languages, systems programming, artificial intelligence, and software engineering. Finally, three courses in mathematics are required; these courses provide a level of mathematical maturity that is essential to the study of computer science. For more information on the major or the Department of Computer Science, see www.cs.pitt.edu.

The department also offers the scientific computing major jointly with the Department of Mathematics (see Department of Mathematics listing for information on this major) and the computer engineering major jointly with the School of Engineering's Department of Electrical Engineering (see School of Engineering section for more information on this major).

Major Requirements

The computer science major requires 37 credits in computer science courses and an additional 11–12 credits in mathematics and/or statistics as detailed below:

1. A minimum of 13 credits must be satisfactorily completed in the following four core courses:
   - CS 0401 Introduction to Computer Science
   - CS 0441 Discrete Structures for Computer Science
   - CS 0445 Introduction to Information Structures
   - CS 0447 Computer Organization and Assembly Language Programming

Students should have some programming experience (usually acquired in high school) before taking CS 0401. Any high school course that includes the writing of several BASIC, C++, or JAVA programs would be sufficient. It is also possible to take one of the department's service courses, such as CS 0007 Introduction to Computer Programming: Pascal, as preparation.

2. Nine credits in these three upper-level required courses:
   - CS 1501 Data Structures and Algorithms
   - CS 1502 Formal Methods in Computer Science
   - CS 1550 Introduction to Operating Systems

3. Fifteen additional credits in upper-level courses (numbered 1000) must also be completed. Internships, directed studies, and co-op courses (see below) may not be used to satisfy this requirement.

4. A minimum of 12 credits in mathematics must be completed as follows:
   - MATH 0220 and 0230 Analytic Geometry and Calculus 1 and 2
   - STAT 1000 Applied Statistical Methods or STAT 1151 Introduction to Probability

Students should complete their required mathematics courses early. Typically, MATH 0220 would be completed in the freshman year. Strong students may elect also to take MATH 1180 Linear Algebra 1.

Additional rules and requirements for the major in computer science are as follows:

- A grade of C or better in all CS courses is required for graduation. Grades lower than C but passing are acceptable in the mathematics courses. All CS courses for the major must be taken for a letter grade, while required mathematics courses may be taken with the S/N option.
- Some computer science courses that fulfill the departmental writing (W course) requirement will be offered each term.
- A 12-credit related area may be completed in approved mathematics and/or statistics courses. Other options include economics, business, chemistry, physics, psychology, or philosophy.
- To graduate with honors, a CS major must complete one additional upper-level course and have a QPA of at least 3.50 in major courses, as well as an overall QPA of at least 3.25.

BS/MS Five Year Degree

The BS degree in computer science requires 120 credits of course work, including 37 credits in computer science and 11 or 12 credits in mathematics and statistics. Typically, a student completes this degree in four academic years. Well-prepared students may apply for admission to the combined bachelor/master's degree program. This accelerated program allows students to begin taking graduate courses in their senior year and complete the combined BS/MS degree in five years. Please contact the Department of Computer Science for additional information.

Co-op Program

Through the assistance of the School of Engineering's Office of Cooperative Education, formal arrangements are established with industry that permit students to rotate four-month terms between the workplace and the classroom. At the University of Pittsburgh, this rotation begins after the completion of the sophomore year and extends into the senior year, with the co-op student completing at least three four-month work periods. These employment sessions, which are typically with the same employer, allow job duties to increase as the knowledge and skills of the student progress. During the co-op sessions, students earn competitive salaries, thus making this program financially rewarding. The co-op credit does not count toward the 37 computer science credits needed for the completion of the computer science program. It does, however, count as College of Arts and Sciences elective credit.

EAST ASIAN LANGUAGES AND LITERATURES

The Department of East Asian Languages and Literatures offers courses in the language, literature, film, linguistics, and culture of China, Japan, and Korea. An undergraduate major is available in either Chinese or Japanese. There is a multiyear sequence of courses in the modern standard languages of China, Japan, and Korea, plus a wide variety of offerings (ranging from introductory to specialized) designed to illuminate various facets of these Asian civilizations. Students whose interests range broadly across the civilization of East Asia may alternatively develop an interdisciplinary studies major or take advantage of the Asian Studies Certificate program. The departmental curriculum is composed of three main categories:

- courses designed to develop competence in the four skills (speaking, listening, reading, writing) of the Chinese, Japanese, or Korean language, plus courses for advanced study in Chinese and Japanese;
- courses taught in English and focused on the mainstream of Chinese, Japanese, and Korean culture as reflected in literature, drama, and film; and
- courses for the advanced study of literature and linguistic analysis.

For more information on the Chinese and Japanese majors, courses in Korean language, or on the Department of East Asian Languages and Literatures, visit the Web site www.pitt.edu/~deall.

Requirements for Both Japanese and Chinese Majors

Students majoring in either Japanese or Chinese should follow these rules and requirements:

- A total of 51 credits with a 2.00 QPA average in departmental courses.
- The first-year language courses may be taken on a S/N basis, but not the second-year language courses. In the third and fourth years, majors have the option of taking two additional courses S/N, one of which may be an advanced language course.
- Majors should enroll in one of the W courses offered by the department or make arrangements with the advisor to enroll in a 1 credit writing practicum associated with a number of courses for the major.

Course Requirements for Japanese Major

Students majoring in Japanese must take 51 credits in departmental courses, distributed as follows:

- Three years of language courses (a total of 29 credits), including
  - JPNSE 0001 First Year Japanese 1
  - JPNSE 0002 First Year Japanese 2
  - JPNSE 0003 Second Year Japanese 1
  - JPNSE 0004 Second Year Japanese 2
  - JPNSE 1020 Third Year Japanese 1
  - JPNSE 1021 Third Year Japanese 2
- One additional language course beyond the third-year level from among one of the following (or an equivalent course):
  - JPNSE 1030 Readings in Japanese Literature
  - JPNSE 1032 Readings in Social Science
  - JPNSE 1040 Introduction to Classical Japanese
  - JPNSE 1050 Fourth Year Japanese
- Two courses (6 credits) from the following list of courses in literature, drama, film, and linguistics:
  - JPNSE 0080 City Life East Asian Culture
  - JPNSE 0083 Introduction to Japanese Literature, (required course)
  - JPNSE 0085 Introduction to East Asian Culture
  - JPNSE 1022 History of the Japanese Language
  - JPNSE 1023 Aspects of the Japanese Language
  - JPNSE 1025 Exploring the Japanese Language and Mind
  - JPNSE 1035 Pragmatics of Japanese
  - JPNSE 1045 Language of Japanese Aesthetics
  - JPNSE 1056 Japanese Literature and the West
  - JPNSE 1057 Japanese Culture and Society through Cinema
  - JPNSE 1058 Westerns and Samurai Films
  - JPNSE 1059 Japanese Literature on Screen
  - JPNSE 1071 The World of Japan
  - JPNSE 1072 Writers and Thinkers
  - JPNSE 1080 Ghosts, Masks, and Actors
  - JPNSE 1081 Forms of Japanese Theatre
  - JPNSE 1085 Introduction to East Asian Cinema
  - JPNSE 1098 Directed Writing for Majors
- Two additional courses, including JPNSE 0083 Introduction to Japanese Literature and one of the following linguistics courses: JPNSE 1022 History of the Japanese Language, 1023 Aspects of the Japanese Language, 1025 Exploring the Japanese Language and Mind, or 1035 Pragmatics of Japanese.

Course Requirements for Chinese Major

Students majoring in Chinese must take 50 credits in departmental courses, distributed among three areas:

- Modern language skills: speech, writing, and reading courses (32 credits) to be chosen from the following:
  - CHIN 0001 and 0002 First Year Spoken 1 and 2
  - CHIN 0003 and 0004 Second Year Spoken 1 and 2
  - CHIN 1005 and 1006 Third Year Spoken 1 and 2
  - CHIN 0011 and 0012 First Year Reading 1 and 2
  - CHIN 0013 and 0014 Second Year Reading 1 and 2
  - CHIN 1020 and 1021 Third Year Reading 1 and 2
- Courses in literature, film, culture, and classical Chinese offered within the department. Twelve credits are to be chosen from the following:

- CHIN 0080 City Life and East Asian Culture
- CHIN 0081 East Asia in the World
- CHIN 0082 Hong Kong Cinema
- CHIN 1040 Literary Chinese 1: Classical
- CHIN 1041 Literary Chinese 2: Classical
- CHIN 1047 Chinese and Western Poetry
- CHIN 1065 Sources on East Asia
- CHIN 1070 Love Power
- CHIN 1082 20th Century Chinese Art
- CHIN 1083 Masterpieces of Chinese Literature: Premodern
- CHIN 1084 Masterpieces of Chinese Literature Film: Modern
- CHIN 1085 Introduction to East Asian Cinema
- CHIN 1086 Love in Chinese and Western Literature
- CHIN 1087 Introduction to Chinese Narrative
- CHIN 1088 New Chinese Cinema
- CHIN 1089 The World of China
- CHIN 1090 Great Minds of China
- CHIN 1562 Confucianism: Basic Texts

- Six credits of China-related courses chosen from other departments in the humanities and social sciences.

Minor in Japanese (15–19 credits)

Two options are available:

- Japanese language, linguistics, literature, film, and theater option (19 credits)
  - JPNSE 0001 First Year Japanese 1, 5 credits
  - JPNSE 0002 First Year Japanese 2, 5 credits
  - Three 3-credit departmental courses taught in English, listed as culture, film, linguistics, literature, or theater.
- Japanese culture, film, linguistics, literature, and theater option (15 credits)
  - Five 3-credit departmental courses taught in English, listed as culture, film, linguistics, literature, or theater.

ECONOMICS

A major in economics can be designed to serve a variety of purposes in the general liberal arts and can provide a background for postgraduate study in a number of professional schools. In addition, economics is frequently taken as a dual major with business at the undergraduate level. Among the graduate-level options which can be pursued by economics majors are law, business, professional-level training in economics, public administration, professional health management, hospital administration, urban affairs, and transportation studies. Because the range of interests among economics majors is quite broad, students are encouraged to work out a plan of studies fitting their individual needs with a departmental advisor. For more information on the major, the minor, and the Department of Economics, see www.econ.pitt.edu.

General Major Requirements

Majors may earn either a Bachelor of Science or a Bachelor of Arts in economics. The general rules and requirements as they apply to both degrees are as follows:

- A minimum overall 2.00 QPA is required in all economics courses for graduation with an economics major.
- A minimum grade of C- is required in ECON 0100 Introduction to Microeconomic Theory, 0110 Introduction to Macroeconomic Theory, 1100 Intermediate Microeconomics, and 1110 Intermediate Macroeconomics. Majors may elect the S/N option for any courses except these four.
- Credit by exam is usually not accepted, but students should check with the departmental advisor about the possibility.
- Majors may choose to complete a double major. Frequently chosen double majors include economics with computer science, history, and philosophy. Less frequently chosen are the sciences (notably biology), which could lead to graduate-level options in public health fields. Interested students have the option of completing a joint major with the mathematics department that will prepare students for a quantitatively oriented job in industry or for entering graduate school in applied mathematics, statistics, economics, business, or a related field (see mathematics major). A structured program leading to a joint CAS/business major is available for students interested in combining economics with business (see Nondepartmental CAS Majors for details).
- Honors in economics is granted if, in addition to fulfilling all requirements for the economics major, the student meets the following criteria:
  - Maintenance of a QPA of 3.25 or above in ECON 0100, 0110, 1100, and 1110
  - Maintenance of a QPA of 3.25 in all economics courses (except ECON 0800 Introduction to Economics)
  - Maintenance of an overall QPA of 3.25 or better
  - Completion of at least 3 credits in the economics proseminar series (ECON 1700–1730)

Requirements for a BA in Economics

Students seeking a BA in economics must earn at least 27 credits in economics courses including the following:

- ECON 0100 Introduction to Microeconomic Theory, 0110 Introduction to Macroeconomic Theory, 1100 Intermediate Microeconomics, and 1110 Intermediate Macroeconomics
- Three additional 1000-level courses, two of which require 1100 or 1110 as prerequisites
- Two economics electives

Students seeking the BA must also take the following corequisite courses:

- MATH 0120 Business Calculus
- STAT 0200 Basic Applied Statistics or STAT 1000 Applied Statistical Methods

Requirements for a BS in Economics

Students seeking a BS in economics must earn at least 24 credits in economics courses including the following:

- ECON 0100 and 1100 Introduction to Microeconomic Theory and Intermediate Microeconomics
- ECON 0110 and 1110 Introduction to Macroeconomic Theory and Intermediate Macroeconomics
- Two 1000-level courses that require 1100 or 1110 or their equivalents as prerequisites
- ECON 1150 Applied Econometrics 1 or 1170 Mathematics for Economists or 1200 Introduction to Game Theory
- A minimum of three additional elective credits in economics

Students seeking the BS must also take the following corequisite courses:

- MATH 0220 Analytic Geometry and Calculus 1
- MATH 0230 Analytic Geometry and Calculus 2
- STAT 1000 Applied Statistical Methods

Requirements for a Minor in Economics

The set of courses required for the minor in economics provides an introduction to the core theory in economics and explores some of the issues that economists study. The four core theory courses are taught each term, along with a broad range of applied economics courses. The required courses (totaling 15 credits) are as follows:

- ECON 0100 Introduction to Microeconomic Theory
- ECON 0110 Introduction to Macroeconomic Theory
- ECON 1100 Intermediate Microeconomic Theory or 1110 Intermediate Macroeconomic Theory
- Two additional courses

Courses in the 0800 series do not count toward the 15 credits required for the minor in economics, and only 3 credits of ECON 1901–1903, directed studies, may be applied toward minor requirements. Other than these restrictions, the two additional courses mentioned above may be any of the courses offered by the department.

ENGLISH

The Department of English at the University of Pittsburgh offers two different major programs, English literature and English writing. Both majors are responsive to many of the traditional goals of a liberal arts education: they seek to develop a broad critical and historical understanding of influential cultural traditions and to foster a range of reading and writing strategies as well as skills of critical analysis. The majors prepare students fairly directly for careers in teaching or writing. But the skills and knowledge the majors impart are useful in numerous business and professional settings. For example, an English major is highly regarded as a preprofessional major for further training in law, medicine, or business. The director of academic affairs for the Association of American Medical Colleges has said (1986) that English majors have a higher rate of acceptance at medical schools than students who have majored in the biological and physical sciences.

Information about the English department major programs follows:

English Literature

The English literature major is designed to develop a critical understanding of literary and cultural traditions in English that is at once informed, skeptical, and appreciative. Some of the distinctive features of the literature curriculum at the University of Pittsburgh are the recurrent concerns from the introductory to the most advanced undergraduate courses with the following: questions of how and why we read and write and participate in cultural activities; the contexts in which a range of literary texts and films are produced, understood, evaluated, and used; and the changing role of art and culture in the contemporary world. The major offers students opportunities to study canonical works of British and American literature from medieval times to the present; often, these texts will be studied in conjunction with historical or philosophical works, with other national literatures in English, and/or with films or works of popular culture. In many courses, students' own writing will be an important object of study.

English Writing

The University of Pittsburgh's Writing Program is the oldest and one of the largest in the United States, offering tracks in fiction, poetry, nonfiction, and journalism. There is a wide variety of classes, and the maximum size is 22. The Writing Program has a full-time faculty of widely published writers, several visiting writers each year, and a number of part-time faculty who are senior reporters or editors at Pittsburgh newspapers and magazines. Graduates of the writing program include editors at major daily newspapers and publishing houses and winners of the Pulitzer Prize and other major awards.

For more information on the Department of English and the majors in English literature and in English writing, see www.english.pitt.edu.

English Literature Major Requirements

The English literature major requires that students take 36 credits with at least a 2.00 QPA in departmental courses. Required courses include the following:

- ENGLIT 0500 Introduction to Critical Reading, which should be taken as early as possible in the major, before taking a 1000-level course and before taking a historical period course
- Four historical period courses to be chosen from among the following:
  - ENGLIT 1100 Medieval Imagination
  - ENGLIT 1125 Renaissance in England
  - ENGLIT 1150 Enlightenment to Revolution
  - ENGLIT 1175 19th-Century British Literature
  - ENGLIT 1200 American Literature to 1860

  - ENGLIT 1325 The Modernist Tradition
  - ENGLIT 1380 World Literature in English
- At least two period courses in literature written before 1798 must be taken. These are to be chosen from among the following:
  - ENGLIT 1100 Medieval Imagination
  - ENGLIT 1125 Renaissance in England
  - ENGLIT 1150 Enlightenment to Revolution
- A junior seminar and a senior seminar
- Five elective courses, which must be approved by the departmental advisor

English Writing Major Requirements

The requirements for a major in English writing are as follows:

- A minimum of 33 credits is required: 21 credits in English writing courses and 12 in English literature courses.
- Majors must choose one of four tracks: fiction, poetry, nonfiction, or journalism. In most cases, students will take other writing courses as well. Each track consists of three levels of courses. The introductory courses (0500s) offer a broad introduction to the skills required of writers in a particular area and generally should be taken no later than the second term of the sophomore year. The intermediate courses (1000s for fiction, 1200s for poetry, 1300s for nonfiction) refine and develop those skills. The senior seminars (1700s) or internships (1900s) provide a test of the student's proficiency as a writer. Students should check prerequisites carefully before registration. Details on the courses required in each track follow:

Fiction Track

Majors concentrating in fiction take the following courses:
- ENGWRT 0520 Introduction to Fiction Writing
- ENGWRT 1010 Intermediate Fiction, two sections are required
- ENGWRT 1094 Readings in Contemporary Fiction
- ENGWRT 1710 Senior Seminar in Fiction

Poetry Track

Majors concentrating in poetry take the following courses:
- ENGWRT 0530 Introduction to Poetry Writing
- ENGWRT 1210 Poetry Workshop, two sections are required
- ENGWRT 1290 Readings in Contemporary Poetry
- ENGWRT 1730 Senior Seminar in Poetry

Nonfiction Track

Majors concentrating in nonfiction take the following courses:
- ENGWRT 0550 Introduction to Journalism
- ENGWRT 1330 Nonfiction 1
- ENGWRT 1340 Nonfiction 2
- ENGWRT 1390 Readings in Contemporary Nonfiction
- One topics course such as 1391 Writing the Review, 1393 Sports Writing, 1405 Broadcast Writing, 1397 Creative Corporate Writing, etc. (numbered 1391 through 1405)
- ENGWRT 1750 Senior Seminar in Nonfiction Writing

Journalism Track

Majors concentrating in journalism take the following courses:
- ENGWRT 0550 Introduction to Journalism
- ENGWRT 1310 Newspaper 1
- ENGWRT 1320 Newspaper 2
- ENGWRT 1760 Advanced Reporting
- One topics course numbered 1391 through 1405 (See Nonfiction Track above for course titles)
- ENGWRT 1900 Internship: News

In addition to the required courses in each track, writing majors need one or two electives to complete the 21 credits in writing required. These electives may be taken in another track if the student wishes.

- For the 12 credits in literature, writing majors must choose courses from the following periods:
  - Literature prior to 1800 (6 credits)
  - Literary genres and periods after 1800 (6 credits)
- A minimum grade of C or better (not C-) is required in a 0500-level writing course to advance to the first 1000-level course in that track. Students who earn less than a C in their first 1000-level course may not advance to other courses in that track. Moreover, students must earn a C or better (not C-) grade in their senior seminar or internship course as well.
- Students are encouraged to take additional writing and literature courses beyond the required minimum. Courses in film studies, women's studies, business, and technical writing are particularly useful for English writing majors.
- The Writing Program recommends related areas in foreign languages, literature in translation, or linguistics; a related area in history or political science is appropriate for students concentrating in journalism.
- Completion of at least one composition course is required for enrollment in a writing program course.
- ENGWRT 0400 Introduction to Creative Writing and ENGWRT 0411 Introduction to Creative Nonfiction are optional introductory courses and may be taken during the second year by students who have recently declared a major in writing, are seriously considering writing as a major, or are taking their first 0500-level course.

Shared Rules for English Literature and English Writing Majors

The following information applies to both English literature and English writing majors:

- There is no limit on the number of courses English majors may take on an S/N basis, either inside or outside the department.
- English majors automatically fulfill CAS requirements for W courses.
- Students who contemplate graduate study in English should remember that many schools do require foreign

language competence, sometimes in more than one language.
- The English department confers honors on those graduates who maintain a 3.25 overall QPA with a QPA of 3.50 or better in English department courses. The QPA is based on all English department courses, not just those that fulfill major requirements.

Undergraduate Minor in English Literature

An undergraduate minor in English literature would help students in a variety of majors to represent significant expertise they have accrued in this field on their transcripts. The structure of the minor will also help direct students with a significant interest in English literature to sequences and sets of courses that are designed to develop their interest; they can take a mini-curriculum rather than just a smattering of electives. A minor in English literature is a desirable supplement to many degrees across the College of Arts and Sciences because it provides insights into cultural traditions and practices, develops students' abilities to write analytic arguments, and promotes critical thinking.

Academic Requirements

The minor will consist of 18 credits and comprise the following courses:
- ENGLIT 0500 Introduction to Critical Reading (W)
- At least two of the following period courses:
  - ENGLIT 1100 Medieval Imagination
  - ENGLIT 1125 Renaissance in England
  - ENGLIT 1150 Enlightenment to Revolution
  - ENGLIT 1175 19th-Century British Literature
  - ENGLIT 1200 American Literature to 1860
  - ENGLIT 1325 The Modernist Tradition
  - ENGLIT 1380 World Literature in English
- ENGLIT 1900 Junior Seminar (W)
  (Students must have completed ENGLIT 0500 and at least one period course before entering the junior seminar.)
- Two electives from 0500- or 1000-level course offerings in English literature

FILM STUDIES

While film studies is not a department, it is an interdisciplinary program and an administrative unit offering both a major and a certificate in film studies. Film is one of the major cultural forms of the 20th century, and its study has become an important part of a modern humanities education. At the University of Pittsburgh, the Film Studies Program provides a series of interdisciplinary courses concerning the history, aesthetics, theory, and production of cinema. The program provides courses in critical studies and (by special arrangement with Pittsburgh Filmmakers in Oakland) courses in film, photography, and video production. A major in film studies helps students to understand and appreciate the cinematic medium and to be aware of its impact as a cultural and artistic force. It is also appropriate for students who wish to pursue careers in film teaching, film journalism, film museum curatorial work, film library and archival work, and film and television production. As part of the Film Studies Program, internships are made available to students in many of these fields. (In the past, students have done internships at the Carnegie Museum of Art, the Pittsburgh Film Office, Pittsburgh Filmmakers, and various television stations.)

Various options are available to students interested in film studies. For those students who wish to make film studies the primary focus of their undergraduate program, it is possible to pursue an interdisciplinary major in film studies. For those students who wish to major in another area but desire a focus in film studies, a certificate program is available. In addition, many students choose to take elective courses in film studies as part of their undergraduate curriculum.

For more information on the film studies major, see www.pitt.edu/~filmst.

Film Studies Major Requirements

The major in film studies requires 36 credits with a 2.00 QPA or above in all major courses. The distribution of courses is as follows and must conform to the regulations listed below:

- Two critical studies courses (normally taken first): ENGLIT 0540 or HA&A 0820 World Film History and ENGLIT 0530 or HA&A 0801 Film Analysis.
- One advanced seminar (normally taken in the senior year): ENG LIT 1920 Advanced Seminar in Film Studies. This course is required for all majors declared beginning in September 1997.
- One production course: FILMST 0100 Filmmaking 1 or 0200 Black and White Photography 1 or 0400 Introduction to Digital.
- At least two courses in Category 1: National Cinemas, Filmmakers. A current Category 1 list from which students can choose their courses is available through the Film Studies Advising office.
- At least two courses in Category 2: Themes, Genres, Theory. A current Category 2 list from which students can choose their courses is available through the Film Studies Advising office.
- Four additional elective courses to complete the major.
- At least five courses must be taken at the 1000-level or above.
- No more than five film production courses may be counted for the major, although additional production courses may be taken as electives.
- Only one 3-credit internship may be counted in the film production category for the major. Other internships may be taken as long as they do not exceed CAS regulations.
- For those students taking three or fewer production courses, two courses within the major may be taken in approved related courses in other departments within the College of Arts and Sciences.
- At least 50 percent of the major courses must be taken at the University of Pittsburgh.
- It is recommended that students take ENGLIT 0530 Film Analysis and ENGLIT 0540 or HA&A 0820 World Film History before taking any 1000-level film courses or any

film production courses, and before declaring the major.
- No more than three courses within the major may be taken on an S/N basis.
- Common related areas of study completed by film studies majors to fulfill the CAS (12-credit) related area requirement are English writing, English or foreign-language literature, history of art and architecture, and history.

Film Studies courses fall into three categories:

- Category 1: National Cinemas, Filmmakers
- Category 2: Themes, Genres, Theory
- Category 3: Film, Photography, Video Production

A current list of courses falling into each category is available through the film studies advising office.

Note: *With the exception of CAS 1900 Internship, all other courses in Category 3 are offered by special arrangement through Pittsburgh Filmmakers. Enrollment in these classes will be limited to those whose tuition is covered by CAS. They will be distributed on a first-come, first-served basis first to film studies majors, then to certificate students, and then to other full-time CAS students, all of whom must be in good academic standing. To apply for a seat in a Pittsburgh Filmmakers course, students must preregister with the film studies advisors (617-B Cathedral of Learning) two weeks before the first day of CAS registration. Failure to attend the first class of the term will mean automatic loss of the seat. Students will not be permitted to take more than one course per term.*

FRENCH AND ITALIAN LANGUAGES AND LITERATURES

A major in French and/or Italian gives students at the University of Pittsburgh the opportunity to study a foreign language in detail and to acquire an education in a literary and cultural tradition central to the humanities. Studying French and/or Italian language and literature prepares students for graduate study in law and international affairs; advanced work in the humanities; and careers in business, governmental service, and teaching. The University is committed to international study, and students are encouraged to take advantage of the numerous opportunities to study abroad. Students can also combine a major in French and/or Italian with a second major in a field such as political science, history, biology, or economics. Students who choose to study the grammar, linguistics, rhetoric, literature, and film of Italy and/or the Francophone world will acquire an invaluable technical resource and an in-depth knowledge of a diverse and foundational intellectual tradition. Students may also minor in French and/or Italian. For more information on the Department of French and Italian Languages and Literatures, see our Web site at www.pitt.edu/~frit.

Major Requirements for Both French and Italian Majors

The following requirements apply to both French and Italian majors:
- Students are required to maintain at least a 2.00 QPA in major courses.
- Students may choose courses from three areas: language, literature, and civilization.
- Reading competency in at least one other language is recommended for students interested in graduate school.
- To earn departmental honors, students must major in French or Italian, demonstrate superior performance in departmental courses, and be enrolled in 1000-level French/Italian courses preferably no later than the first term of the junior year. Selection of honors candidates takes place only in the second term of the junior year. During the senior year, two appropriate sequential courses are chosen in consultation with the major advisor, and a research paper must be completed. The paper must be defended before a faculty committee. Honors will be determined by the quality of the paper and the defense, as well as the cumulative grades in all departmental courses counting toward the major.

French Major Requirements

Majors in French must have completed two years of college work or the equivalent before beginning core courses. The French major consists of at least 31 credits above the intermediate level (FR 0001–0004 elementary and intermediate French courses do not count toward the major) and must include the following courses:
- FR 0020 Introduction to Civilization
- FR 0021 Approaches to French Literature
- FR 0055 French Conversation
- FR 0056 Written French 1
- FR 0057 Written French 2
- FR 0058 Advanced French Conversation

Majors are expected to take one credit of FR 0058 Advanced French Conversation, but they may take two additional credits of the course as a nonmajor elective.

In addition to those basic requirements, the following criteria must be met by French majors:
- Once the basic requirements are met, students will, in consultation with their advisor, design a program that corresponds to their needs, but they must take an additional 15 credits at the 1000 level. Twelve credits must be in courses taught in French.
- French majors may take one course above 0004, in addition to 0058, on an S/N option.
- Although study abroad is not a requirement for the major in French, students are strongly encouraged to consider participating in a study-abroad program in a French-speaking country during their undergraduate career.

CAS requires 12 credits in a related area to be chosen in consultation with the program advisor. This requirement can also be met by completing an official minor in another area.

Requirements for French and Italian Minors

The French and Italian department offers four possible minors: French language and literature, French studies, Italian language and literature, and Italian studies. Each minor can be selected from several options.

French Language and Literature

19 credits:
- FR 0001 Elementary French 1
- FR 0002 Elementary French 2
- FR 0003 Intermediate French 1
- FR 0004 Intermediate French 2
- FR 0020 Introduction to Civilization or 0021 Approaches to French Literature

19 credits:
- FR 0001 Elementary French 1
- FR 0002 Elementary French 2
- FR 0003 Intermediate French 1
- FR 0004 Intermediate French 2
- FR 0080 Modern French Novel, 0081 French Theater, or 0085 French Film 1930–1960

15 credits:
- FR 0003 Intermediate French 1
- FR 0004 Intermediate French 2
- FR 0020 Introduction to Civilization and/or 0021 Approaches to French Literature
- And two courses from FR 0055 French Conversation, 0056 Written French 1, 0057 Written French 2, 0080 Modern French Novel, and/or 1080 series for a total of five courses.

French Studies

15 credits:
- FR 0080 Modern French Novel
- FR 0081 French Theater
- And any combination of an additional three courses from 0085 and 1080 series.

19 credits:
- FR 0001 Elementary French 1
- FR 0002 Elementary French 2
- And any combination of an additional three courses from 0080 and/or 1080 series

Italian Major Requirements

Majors in Italian, after one year of college instruction in the language, may enroll in ITAL 0003 Intermediate Italian 1 for credit toward the major. The major consists of at least 34 credits above elementary Italian (ITAL 0001 and 0002 Elementary Italian 1 and 2, which do not count toward the major) and must include the following courses:
- ITAL 0003 Intermediate Italian 1
- ITAL 0004 Intermediate Italian 2
- ITAL 0050 Italian Conversation
- ITAL 0060 Literary Italian 1
- ITAL 0061 Literary Italian 2
- ITAL 0080 Italian Cultural Heritage 1
- ITAL 0081 Italian Cultural Heritage 2
- Five 1000-level courses. At least three of the upper-level courses must be taken from the following list:
  - ITAL 1030 Advanced Composition
  - ITAL 1031 Italian Phonetics
  - ITAL 1041 Italian Theatrical Workshop
  - ITAL 1060–1069 (Special Topics, Dante 1 and 2, Petrarch and Boccaccio, Novel, Lyric Poetry, Epic Poetry, Italian Theater, and Italian Novella)

In addition to those basic course requirements, the following criteria apply to Italian majors:
- Two courses in the 1080 or 1050 series (courses taught in English) may be counted toward the major if the student completes a specified part of the work in Italian.
- Three credits earned in professional translation Italian courses may be counted toward the major in Italian.
- Majors may not take any courses on the S/N basis.
- A 12-credit related area may be chosen from humanities and social sciences including a second foreign language, linguistics, history, English, history of art and architecture, communication, music, and political science, or another subject as arranged with the major advisor.

Requirements for Italian Minors

Italian Language and Literature

19 credits:
- ITAL 0001 Elementary Italian 1
- ITAL 0002 Elementary Italian 2
- ITAL 0003 Intermediate Italian 1
- ITAL 0004 Intermediate Italian 2
- ITAL 0060 or 0061 Literary Italian 1 or 2

19 credits:
- ITAL 0001 Elementary Italian 1
- ITAL 0002 Elementary Italian 2
- ITAL 0003 Intermediate Italian 1
- ITAL 0004 Intermediate Italian 2
- ITAL 0080 Italian Cultural Heritage 1, 0081 Italian Cultural Heritage 2, or 0086 Italian Cinema

15 credits:
- ITAL 0003 Intermediate Italian 1
- ITAL 0004 Intermediate Italian 2
- ITAL 0060 or 0061 Literary Italian 1 or 2
- And one or two courses from ITAL 0080 Italian Cultural Heritage 1, 1080 Masterpieces of Italian Prose, 1030 Advanced Composition, 1040, or the 1060 series.

Italian Studies

15 credits:
- ITAL 0080 Italian Cultural Heritage 1 and ITAL 0081 Italian Cultural Heritage 2 and any combination of an additional three courses from 0086 and 1080 series.

19 credits:
- ITAL 0001 Elementary Italian 1 and ITAL 0002 Elementary Italian 2 and any combination of an additional three courses from 0080 and/or 1080 series.

Minors may not take any courses on the S/N basis.

GEOLOGY AND PLANETARY SCIENCE

The Department of Geology and Planetary Science studies the Earth and how it works. The earth is a fascinating natural system that supports many interactions between the solid earth, oceans, atmosphere, life, and various solar system objects. The primary goal of our geology and environmental geology majors (both BS programs) is a scientific understanding of these natural systems and their significant and sometimes surprising variations over geologic time. In addition, these students often seek a solid scientific grounding in earth resources and environmental problems. Our popular environmental studies major (a BA program) focuses on the economic, political, and legal issues that conspire to either cause or prevent the solution of environmental problems. Our programs are popular with people who love nature, who want to understand how the earth works, and who want to understand the many dimensions of modern environmental issues. For more information on our programs, please visit www.geology.pitt.edu.

Geology Major Course Requirements

Core courses required for a geology major (29 credits):
- GEOL 0040 Physical Geology or GEOL 0800 Geology or GEOL 0860 Environmental Geology
- GEOL 0055 Geology Laboratory
- GEOL 0060 Historical Geology
- GEOL 1001 Mineralogy
- GEOL 1003 Igneous and Metamorphic Petrology
- GEOL 1020 Sedimentology and Stratigraphy
- GEOL 1100 Structural Geology
- GEOL 1960 Field Camp

Electives (9 credits): Students must earn at least 9 credits of upper-division or graduate-level GEOL courses from the following
- GEOL 1051 Groundwater Geology
- GEOL 1055 Environmental Science, Ethics, and Public Policy
- GEOL 1060 Geomorphology
- GEOL 1080 Geoarcheology
- GEOL 1200 Paleontology
- GEOL 1410 Exploration Geophysics
- GEOL 1445 GIS, GPS, and Computer Methods
- GEOL 1460 Remote Sensing of the Earth
- GEOL 1515 Environmental Geochemistry
- GEOL 1640 Geologic and Environmental Hazards
- GEOL 1701 Geology of the Planets
- GEOL 1900 Internship
- GEOL 1903 Undergraduate Research
- GEOL 1904 Research in Environmental Policy
- GEOL 2447 Introduction to Arc/View
- GEOL 3963 Topics in Environmental Geology

Corequirements (29 credits):
- MATH 0220, 0230, and 0240 Analytical Geometry and Calculus 1, 2, and 3
- PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2
- CHEM 0110 and 0120 General Chemistry 1 and 2

Environmental Geology Major Course Requirements

Core courses required for a geology major (29 credits):
- GEOL 0040 Physical Geology or GEOL 0800 Geology or GEOL 0860 Environmental Geology
- GEOL 0055 Geology Laboratory
- GEOL 1001 Mineralogy
- GEOL 1003 Igneous and Metamorphic Petrology
- GEOL 1020 Sedimentology and Stratigraphy
- GEOL 1051 Groundwater Geology
- GEOL 1100 Structural Geology
- GEOL 1960 Field Camp

Electives (12 credits):
- At least 9 credits of upper-division or graduate-level GEOL courses from the following:
  - GEOL 0060 Historical Geology
  - GEOL 1055 Environmental Science, Ethics, and Public Policy
  - GEOL 1060 Geomorphology
  - GEOL 1080 Geoarcheology
  - GEOL 1200 Paleontology
  - GEOL 1410 Exploration Geophysics
  - GEOL 1445 GIS, GPS, and Computer Methods
  - GEOL 1460 Remote Sensing of the Earth
  - GEOL 1515 Environmental Geochemistry
  - GEOL 1640 Geologic Environmental Hazards
  - GEOL 1701 Geology of the Planets
  - GEOL 1900 Internship
  - GEOL 1901 Independent Study
  - GEOL 1903 Undergraduate Research
  - GEOL 1904 Research in Environmental Policy
  - GEOL 2447 Introduction to Arc/View and Advanced Arc/View Programming
  - GEOL 3963 Topics in Environmental Geology
- One upper-division BIOSC, CHEM, CE, MATH, or CS course such as BIOSC 0370 Ecology, CHEM 0310 Organic Chemistry 1, or CE 1503 Introduction to Environmental Engineering.

Corequirements (27 credits):
- MATH 0220 and 0230 Analytical Geometry and Calculus 1 and 2
- PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2 or PHYS 0475 and 0476 UHC Introduction to Physics for Science and Engineering 1 and 2
- CHEM 0110 and 0120 General Chemistry 1 and 2 or equivalents
- BIOSC 0150 Foundations of Biology 1

Requirements for Both Geology and Environmental Geology Majors

The following rules and requirements apply to both geology and environmental geology majors:

Geology credits may not be earned on credit-by-examination basis, and no geology course may be taken on the S/N basis by majors. However, any two of the following required courses for either major may be taken on an S/N basis:
- BIOSC 0150 and 0160 Foundations of Biology 1 and 2

- CHEM 0110 and 0120 General Chemistry 1 and 2
- MATH 0220, 0230, and 0240 Analytic Geometry and Calculus 1, 2, and 3
- PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2

Geology majors automatically fulfill the CAS-required related area by taking courses in mathematics, physics, and chemistry. Environmental geology majors do not automatically fulfill the related area requirements by taking the required courses.

To graduate with departmental honors, a student must complete one of three options (course, research, or internship). Please see the department for details on these options for students majoring in geology or environmental geology.

- A minimum of 3 credits in geochemistry and 3 credits in geophysics must be included in the minimum requirements listed above, and students must have an overall QPA of 3.25 or higher.
- The nature of geology is such that certain courses must be taken in sequence. Because of the prerequisites in other sciences, CHEM 0110 and 0120 should be taken during the first two terms, and the mathematics and physics sequences should begin as early as possible, preferably in the freshman year.

Environmental Studies Overview (Bachelor of Arts Degree)

Rapid growth in human population and development has led to complex environmental problems on local and global scales. The way in which we address these issues will have a profound effect on our society and planet in the coming century. Enlightened solutions require a strong component of scientific knowledge and an awareness of the relevant societal issues. A major in environmental studies will equip students with an understanding of earth systems and the environment, including the role of geologic processes on human activity and the impact of humans on the biosphere, atmosphere, hydrosphere, and global climate. Courses in the natural and social sciences supplement a traditional liberal arts curriculum to provide a comprehensive, interdisciplinary background in the scientific, economic, political, and social aspects of human interaction with the environment.

The environmental studies major provides a strong background for students who seek careers in fields such as resource development and management, environmental policy and regulation, risk assessment, land use planning, public policy, and education. Potential employers include local, state, or federal government organizations; consulting firms; or companies that are affected by environmental issues or regulations. Graduates of the Environmental Studies Program can also pursue postgraduate study in fields such as business, law, medicine, public policy, education, international relations, urban and regional planning, environmental management, and public health.

Environmental Studies Major Requirements

The major consists of core courses, corequirements, and electives. The core courses provide a fundamental understanding of environmental processes, issues, and policy and culminate in an environmental science field course and an interdisciplinary capstone course on science and public policy. The corequirements provide the necessary background for advanced study. Majors are encouraged to undertake an independent research project, internship, or senior thesis.

Core courses required for the major include the following (33 credits):

- GEOL 0860 Environmental Geology or GEOL 0800 Geology or GEOL 0040 Physical Geology or GEOL 0840 Earth Systems Science
- GEOL 0030 World Physical Geography
- GEOL 0055 Geology Laboratory
- GEOL 1515 Environmental Geochemistry
- GEOL 1313 Communication for Environmental Professionals
- BIOSC 0150 Foundations of Biology 1
- BIOSC 0050 Foundations of Biology Lab 1
- ECON 0800 Introduction to Economics or ECON 0100 Introduction to Microeconomic Theory
- LEGLST 1320 Law and Environment
- EOH 1200 Introduction to Risk Assessment or HPS 0611 Principles of Scientific Reasoning

Environmental field course (at least 2 credits from one of the following):

- BIOSC 0740 Yellowstone Field Course
- BIOSC 1040 Ecological Management
- An approved environmental science field course run through an outside institution
- GEOL 1900 Internship, 3 or 4 credits

Interdisciplinary capstone course:

- GEOL 1055 Environmental Science, Ethics, and Public Policy or GEOL 1056 (the honors version taught jointly by the Department of Geology and Planetary Science and the University Honors College).

Corequirements (12 credits):

- CHEM 0110 General Chemistry 1
- MATH 0220 Analytic Geometry and Calculus 1 or MATH 0120 Business Calculus
- STAT 0200 Basic Applied Statistics or STAT 1000 Applied Statistical Methods or STAT 1100 Statistics and Probability for Business Management or STAT 1151 Introduction to Probability

Electives (24 credits) in one of the following fashions:

- 12 credits in the social sciences/humanities
- 12 credits in the natural sciences
- see advisor for approved list

Environmental studies majors automatically fulfill the College of Arts and Sciences required related area.

Three elective credits may be earned through independent study projects or internships.

GERMANIC LANGUAGES AND LITERATURES

The study of foreign language and culture is a cornerstone of education in today's international world. It teaches intercultural competence by increasing students' understanding of their own backgrounds and their sensitivity for other traditions and values. Knowledge of a foreign language and culture brings obvious competitive advantages in careers with an international dimension. As a liberal arts discipline, the study of language improves analytic-conceptual and communication skills necessary for all professional careers. Enhanced with appropriate additional course work, a major in German serves as a foundation for professional training in such subjects as business, law, politics, and medicine, as well as the media and communication industry. Students with a BA in German compete well in nontechnical fields for jobs requiring a bachelor's degree. For more information on the major, the minor, the certificate, and the Department of Germanic Languages and Literatures, see www.pitt.edu/~germanic.

German Major Requirements

The German major can be completed by any student who begins GER 0001 Elementary German 1 during the fall term of the freshman year. The curriculum integrates language learning with the study of history, politics, and popular as well as elite culture. Students acquire proficiency in the German language as well as an in-depth understanding of the German-speaking world. The German major requires 15 credits in advanced language and 15 credits in literature and culture for a total of 30 credits as follows:

- Required advanced language courses (15 credits)
  - GER 1000 Reading Literary Texts
  - GER 1001 Writing in German
  - GER 1002 German Phonetics
  - GER 1101 Advanced German 1: Media
  - GER 1102 Advanced German 2: Structures

- Required literature and culture courses (15 credits)
  - GER 1052 Major Cultural Periods
  - Four advanced literature and culture courses from GER 1200–1399. Courses numbered in the 1500s (German literature and culture courses in English) may be used in this category only in exceptional cases and with the permission of the director of undergraduate studies.

- Additional rules and requirements for German majors are as follows:
  - A 2.00 QPA is required in major courses to be counted toward the degree.
  - Majors may take required courses under the S/N option only by special permission of the director of undergraduate studies.
  - Admission to the German major requires a grade of B- or better in GER 0004 Intermediate German 2.
  - The CAS departmental writing requirement is satisfied by GER 1001 Writing in German.
  - The director of undergraduate studies must approve all courses that are to count as a student's required 12-credit CAS related area. These credits may be taken from another discipline (e.g., art history, economics, chemistry) or from an interdisciplinary field (e.g., film studies or women's studies).
  - Departmental honors in German are available to majors who have earned an overall QPA of at least a 3.50 in their major courses, completed a senior thesis that has been accepted by the departmental faculty, and demonstrated a high level of proficiency in speaking and writing German. Only those students with a 3.25 QPA in three advanced literature and culture courses and three advanced language courses will be permitted to write an honors thesis.
  - Students are encouraged to study and reside in a German-speaking country as a component of the German major. Numerous possibilities exist for such study, and financial aid is often available.

Requirements for Minor in German Studies

The minor in German studies consists of 15–19 credits. Students who are interested in the minor may tailor their course selection according to their interest in German language, literature, and film studies. They may select literature and film courses that are offered either in English translation or in German. The two options within the minor are as follows:

German Literature and Film Option (15 credits)

Students must complete five 3-credit courses offered by the department as either literature, culture, or film courses in German (numbered 1051–1410) or as German literature, culture, or film courses in English (numbered 1500–1542).

German Language, Literature, and Film Option (15–19 credits)

Students must complete the following requirements:

- Two semesters of German language acquisition courses, including GER 0001 and 0002 Elementary German 1 and 2 or GER 0101, 0102, and 0103 Beginning German 1, 2, and 3
- Three, 3-credit courses offered by the department as either German literature, culture, or film courses in German (numbered 1051–1410) or as German literature, culture, or film courses in English (numbered 1500–1542)

Note: *Students may use appropriate study abroad credit toward the German studies minor. The credits must be pre-approved by the department's director of undergraduate studies. The department also offers a German language certificate. For details and requirements on this certificate, please see the CAS Certificate Programs section of this bulletin.*

HISPANIC LANGUAGES AND LITERATURES

The study of a foreign language, literature, and culture like Spanish traditionally has been one of the central components of an undergraduate education in the humanities. Today there is an added practical dimension to this. With economic and cultural globalization, our links as a nation with Spain and Latin America, including Brazil, have become much closer. At the same time, Spanish is not only a foreign language for us; it has become much like French in Canada, a de facto second language in the United States, which now has a Spanish-speaking population of more than 30 million. As a result, there is a growing demand for persons trained in Spanish (and also Portuguese) in many fields, especially education, where there is a shortage of new teachers of Spanish language and culture. We are in the process of updating and redesigning our undergraduate major to reflect these new developments. Meanwhile, we offer several different tracks for current majors, which involve a combination of core courses in the Spanish language and Spanish and Latin American literature and civilization, and an introductory Portuguese course, with a selection of additional courses from our 1000-level offerings in Latin American and Peninsular literature and film, Luso-Brazilian topics, Spanish translation and Hispanic linguistics, and U.S. Latino topics. In consultation with the departmental undergraduate advisor, a selection of courses from the major can also be used to construct a related area in Spanish and/or Portuguese. A variety of courses, some taught in English for nonmajors interested in Hispanic, Latin American, Luso-Brazilian, or U.S. Latino culture, are also available. We encourage majors to include at least a semester of study abroad in a Spanish or Portuguese speaking country, if possible. The department works in close cooperation with the Pitt Center for Latin American Studies (CLAS), and many majors choose as a related area the CLAS undergraduate certificate program, which includes a Latin American field trip component.

Students majoring within the department should consider the various options open to them, including the possibility of combining their CAS degree with a second degree in another school of the University, such as social work, business, health and rehabilitation sciences, education, etc., or with an additional major within CAS such as anthropology, economics, film studies, communication, history, or political science. Students may prepare for careers in government, industry, education, or international affairs, as well as for graduate work specifically in Hispanic or Luso-Brazilian studies.

Required Courses for Majors

All majors require competency in Spanish, and students must complete SPAN 0004 Intermediate Spanish 4 or the equivalent, although these courses do not count toward the major. PORT 0001 Elementary Portuguese 1 is also required of all majors. The department will initiate a new set of requirements in fall 2003. Meanwhile the requirements are as follows:

Core Sequence: required of all majors:

- SPAN 0020 Conversation or 1020 Advanced Conversation
- SPAN 0025 Grammar and Composition or 1025 Advanced Grammar
- SPAN 0050 Spanish Civilization, 0051 Latin American Civilization, and 0055 Introduction to Hispanic Literature 1
- SPAN 1400 Survey of Latin American Literature or 1600 Survey of Spanish Literature
- PORT 0001 Elementary Portuguese 1
- In addition, in consultation with the major advisor, students may select a combination of five additional 1000-level courses. Students who wish to include PORT 0002 Elementary Portuguese 2 in the major may substitute it for one of these courses.

Related Area

Students must complete a 12-credit related area in order to fulfill CAS graduation requirements. Students interested in Latin America should consider the Latin American Studies Certificate program for a related area.

Program W Requirement

Students should check with major advisor.

Grade Requirements

Students must maintain an average QPA of 2.0 or above in all department courses.

Satisfactory/Audit Option

Majors may take one required course on a S/N basis.

Study Abroad

Study abroad is strongly encouraged.

Placement into Language Courses

Although freshman students are given special placement exams to determine their level of competence, the department recognizes the limitations of these exams and accordingly maintains a flexible and practical policy in helping each student find the class level that is most appropriate. We urge anyone who wishes to study with us to speak with the department language coordinator, who will be more than happy to assist in this important matter of placement.

Credit by Examination

Students may receive credit by examination for the Spanish language courses up to and including SPAN 1025 Advanced Grammar, and beyond by special request. Normally, credit earned in this fashion is limited to three courses beyond SPAN 0004 Intermediate Spanish 4. Similar credits may be earned in Portuguese.

Contact Information

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Study Abroad Options for Majors in the Hispanic Languages and Literatures Department

You are strongly encouraged to add an international dimension to your undergraduate education through studying abroad. By participating in a study abroad program, you will earn credits toward your degree. Several study abroad options are available through the University of Pittsburgh. We invite you to investigate these and other options further. You can call for an advising appointment or stop in any time to receive information. Scholarships are available, and financial aid is applicable.

University of Pittsburgh
Latin American Studies Field Trip
Location: Latin America (location varies each summer)
Dates: Spring term seminar at Pitt plus summer session 1 field trip
Fields of Study: Local history and culture
Language of Instruction: Spanish or Portuguese
Special Features: Program offers interdisciplinary seminar, research methodology field research projects, and housing with host families
Eligibility: Proficient in language of instruction by end of spring term

Pitt in Cuba
Dates: Summer
For further information, contact Professor Mark Ginsburg, School of Education, 412-648-1783; sg3@pitt.edu.

Institute of European Studies (IES), Madrid
Location: Madrid, Spain
Dates: Semester, full year, or summer options available
Fields of Study: Liberal Arts courses including Spanish language and literature
Language of Instruction: Spanish
Special Feature: Housing in Spanish homes
Eligibility: Four or five semesters of college-level Spanish

Council International Educational Exchange (CIEE), Brazil
Location: University of Sao Paulo
Dates: Academic year only
Fields of Study: Portuguese language
Special Features: Program offers various weekend excursions
Eligibility: Two years of college-level Portuguese or Spanish or one year each of Spanish and Portuguese; junior status by start of program

HISTORY

Historians use methods, techniques, and ideas from a wide range of humanistic and social scientific fields to teach students how materials from many fields are integrated to describe or explain a particular historical time period or topic. History is an open-ended discipline, and the department welcomes students, as well as ideas and techniques, from other subjects. History also gives a student many options for a future career. Many history majors have become lawyers, journalists, civil servants, and business executives. The future of a history major is not limited to college or school teaching, although these are also available career choices. Expanding opportunities are to be found in public and private agencies, in businesses, archives, historical societies, museums, and government offices. History courses may help students to develop a balanced program that will further their career and intellectual goals. Courses in economics and history could lead to an understanding of economic development and aid a business or civil service career; a combination of language, literature, and history would give a student background that could lead to a career in foreign service or teaching; a mixture of communication and writing with history might prepare one for a career in journalism. In short, students in practically any field can investigate questions that are intellectually exciting and personally helpful by taking history courses related to their programs and ambitions. For more information on the major, the minor, or the Department of History, visit www.pitt.edu/~pitthist/dept.html.

Major Requirements

Majors in history must complete a minimum of 30 credits in history courses, including the following:

- Required core courses (15 credits)
  - One course in pre-1500 history
  - One survey course in U.S. history from the following list:
    - HIST 0600 United States to 1877
    - HIST 0601 United States 1865–Present
    - HIST 0670 Afro-American History 1
    - HIST 0671 Afro-American History 2
  - One survey course in European history from the following list:
    - HIST 0100 Western Civilization 1
    - HIST 0101 Western Civilization 2
    - HIST 0200 East Europe Civilization
    - HIST 1240 Political East Europe
  - One course in Latin American, Asian, East European, Russian and Soviet, African, or Middle Eastern history
  - One required seminar for majors (HIST 1000 Writing Seminar for Majors or 1001 Required Seminar for Majors).

- Required focused area of study (12 credits)

Majors must take four courses beyond the core courses. These courses will be selected by the student with the help of a faculty member or the undergraduate advisor to form a focused area of study. Such areas may be chronological, geographic, or thematic and normally should be declared during the junior year. Many students choose a geographical focus, e.g., History of the Americas or Europe; however students are encouraged to discuss with their advisors or faculty concentrations based on their own grouping together of four courses.

- One additional history course

In addition to those course requirements, the following rules and requirements apply for history majors:

- Students must earn at least a 2.00 overall QPA in history courses.
- Fifteen credits must be in courses numbered 1000 or above.
- Majors may take a total of 9 credits for the major on an S/N basis. HIST 1000 Writing Seminar for Majors or 1001 Required Seminar for Majors may not be taken S/N.
- Students may earn up to 9 credits in history on a credit-by-examination basis; arrangements can be made by contacting the instructor of the course involved.
- Students must complete a CAS 12-credit related area; economics, sociology, political science, statistics, or computer science are suggested.
- History majors are strongly encouraged to add an international dimension to their undergraduate education by studying abroad.
- Students interested in graduate study in history should be aware that all graduate departments of history require proficiency in at least one foreign language and that many require competence in two languages for a PhD.
- The honors program consists of the regular major plus 6 extra credits. Students apply for the honors program in their sophomore year and should have completed 12 credits in history, have a 3.35 QPA overall and a 3.50 in history, and submit a piece of writing for approval by the Undergraduate Committee. There are four elements to the honors program:
    - The special honors seminar, HIST 1902 Writing: History Honors Seminar; this is separate from and in addition to the required seminar for majors
    - One University Honors College history course
    - An independent study (HIST 1901)
    - The completion and acceptance of a 25–50 page honors thesis
    - No grade below B is acceptable to fulfill the honors requirements.

Internships for History Credit

History majors may do an internship for 3 credits (HIST 1900) in a local museum in either the fall or spring semesters. Contact the history academic advisor for information.

Study Abroad

Each year the department offers a scholarship for study broad. Applications for the A. J. Schneider Award are due by February each year. Contact the history undergraduate advisor for more information.

Minor Requirements

The history minor consists of two lower-level courses followed by three upper-level courses, for a total of 15 credits. The two lower-level (survey) courses may be in the same geographical area or in two different areas. For example, courses may be chosen from among the following:

- HIST 0100 Western Civilization 1
- HIST 0101 Western Civilization 2
- HIST 0200 East Europe Civilization
- HIST 1240 Political East Europe
- HIST 0300 Russia to 1860
- HIST 0301 Russia to 1917
- HIST 0400 Traditional East Asia to 1850
- HIST 0401 Modern East Asian Civilization
- HIST 0500 Colonial Latin America
- HIST 0501 Modern Latin America
- HIST 0600 United States to 1877
- HIST 0601 United States 1865–Present
- HIST 0670 Afro-American History 1
- HIST 0671 Afro-American History 2

Normally, the three upper-level courses should be chosen from the geographic area of one of the survey courses already taken.

HISTORY OF ART AND ARCHITECTURE (HA&A)

Art, like science or language, is an intrinsically human way of organizing our experience of the world. Because it appeals to a fundamental sense of order, art can speak to us with immediacy even without knowledge of the purposes for which it was created and the particular principles or order adhered to by the artists of a given culture. Still deeper understanding may follow, however, from an awareness of these purposes and principles, and courses in art history are concerned with the study of art and architecture as cultural documents of the values and ideals of various cultures. Art history offers an opportunity to consider objects and environments that have been created in response to some of humanity's loftiest and most basic aims. The requirement that these visual expressions be analyzed and evaluated in the medium of words makes art history a rewarding area of humanistic study. The major in the history of art and architecture offered by the HA&A department helps prepare individuals for careers calling for skills in writing,

where description and analysis play important roles, as well as for careers more immediately related to art, such as those of critic, teacher, librarian, art administrator, or museum or gallery staff member.

The architectural studies major, also administered by the HA&A department, offers a curriculum devoted to the study of human-made environments. The major components include history of architecture, studio arts, and a core curriculum that includes a survey of the history of architecture, the history of architecture theory, a professional internship, and a portfolio. The degree is suitable for a wide variety of careers and professions including the design and construction of the built environment, such as landscape architecture, interior design, restoration, historic preservation, real estate development, and contracting. These interests can be categorized in two groups:

- The preprofessional studies category prepares students for graduate professional training in any of the environmental design fields (architecture, interior design, landscape design, urban planning, and preservation). Students are able to explore a professional interest while acquiring a liberal arts education.
- The nonprofessional studies category is for students not interested in becoming professional architects. This program offers a rigorous curriculum that assists students in exploring their interest in environmental arts and criticism and provides an understanding of the environment's integral relationship with society and culture.

Students of both categories should be fully aware that this degree in architectural studies does not in itself constitute professional or technical training. Students seeking recommendations to graduate professional programs in architecture must complete the following courses or their equivalents: MATH 0220 and 0230 Analytic Geometry and Calculus 1 and 2 and PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2 or PHYS 0110 and PHYS 0111 Introduction to Physics 1 and 2. These courses should be completed by the end of the junior year. Students who do not expect to pursue a career in architecture may substitute course sequences in mathematics, statistics, or computer science for the calculus prerequisite and in other natural sciences for the physics prerequisite.

For more information on these majors and the History of Art Architecture department, see www.pitt.edu/~arthome.

History of Art and Architecture Major Requirements

Students majoring in HA&A have the option of pursuing the standard program or the intensive program. Course requirements vary as follows:

Standard Program

The standard major consists of 24 credits in HA&A, including at least one course from three of the following five areas:

- Non-Western
- Ancient
- Medieval
- Renaissance/Baroque
- 18th Century/Modern
- HA&A 1010 Approaches to Art History is required of all majors
- One upper-division HA&A course numbered 1000 or above

Because of the minimum number of courses required, the major is especially suitable as an area of study for students with strong interests in related fields or as a double major for students concentrating in one such field (e.g., studio arts, French, psychology, or various preprofessional programs).

Intensive Program

The intensive program consists of a minimum of 30 credits in HA&A courses, including the three courses distributed among the five areas described above. Also required are four upper-division HA&A courses numbered 1000 or above, specifically including HA&A 1010 Approaches to Art History. Most majors in the intensive program also take HA&A 1901 (a departmental internship) in their final term.

Other requirements and rules for all HA&A majors are as follows:

- A QPA of at least 2.00 in all department courses is required for graduation with a major in HA&A.
- Any of the following may prove useful for the required 12-credit CAS related area: ancient or modern languages, philosophy (particularly aesthetics), cultural and intellectual history, studio arts, music, anthropology, sociology, and psychology of perception.
- There is no language requirement beyond that required by CAS, but a reading competency in a foreign language is desirable for some field course readings. If a student's high school language preparation does not provide this competency, he or she should consult the art history advisor concerning preferred languages.
- With the exception of HA&A 1010 Approaches to Art History, courses for the major should not be taken on the S/N option.
- Students electing the HA&A intensive program who have at least a 3.25 overall QPA and a 3.50 QPA in HA&A may qualify for departmental honors by enrolling in and completing HA&A 1950 Senior Thesis with a grade of A or B. The intensive program, in conjunction with the senior thesis, is especially recommended for students planning to do graduate work.

Architectural Studies Major Requirements

The architectural studies major requires the completion of 36 credits. The outline of course requirements listed below is intended for students who expect to pursue a career in architecture. For others, some substitutions may be made in consultation with the director of architectural studies. In practice, each student's major will be designed to serve his/her own individual needs and career goals, but the following description will be used as the model:

- Core courses (12 credits) in HA&A
  - HA&A 1040 History of Architecture Theory
  - HA&A 1900 Architectural Studies Internship
  - HA&A 1915 Architectural Studies Portfolio, to be taken in the senior year
  - HA&A 1913 Architectural Studies Seminar, to be taken in the senior year
- Visual skills courses in studio arts (12 credits)
  - SA 0110 Foundation Design
  - SA 0140 Foundation Sculpture
  - SA 0130 Foundation Drawing
  - SA 1430 Perspective Drawing
- History of architecture courses (12 credits)
  - HA&A 0040 Introduction to Architecture is **required**, plus an additional 9 credits with at least 6 credits at the 1000 level from the following list:
  - HA&A 0045 Introduction to Modern Architecture
  - HA&A 0080 World Religious Architecture
  - HA&A 0440 Frank Lloyd Wright
  - HA&A 0450 20th-Century Architecture
  - HA&A 1160 Roman Architecture
  - HA&A 1220 Early Christian/Byzantine Architecture
  - HA&A 1235 English Medieval Architecture
  - HA&A 1240 Romanesque Architecture
  - HA&A 1250 Gothic Architecture
  - HA&A 1305 Early Renaissance Architecture
  - HA&A 1306 High Renaissance Architecture
  - HA&A 1408 Classical Tradition in Architecture
  - HA&A 1480 Architecture Since 1945
  - HA&A 1510 Pittsburgh Architecture/Urbanism
  - HA&A 1530 American Architecture 1: To Civil War
  - HA&A 1531 American Architecture 2: To Today
  - HA&A 1630 History of Chinese Architecture
  - HA&A 1880 World Cities
  - HA&A 1910 Special Topics—Architecture
- In addition, architectural studies majors must adhere to the following rules and requirements:
  - Students must maintain a minimum 2.00 QPA in major courses. However, a QPA of 2.75 or higher is required for an internship and for graduate school recommendation.
  - Only HA&A 1900 Architectural Studies Internship and HA&A 1915 Architectural Studies Portfolio may be taken on an S/N basis by majors.
  - For the required 12 credits in a related area, the department recommends studio arts or history of art and architecture beyond the credits required for the major, history, anthropology, mathematics, or any natural science.

Certificate in Civil Engineering and Architectural Studies (for Architectural Studies Majors)

This certificate, designed for architectural studies majors, is offered through the School of Engineering. See the School of Engineering's section of this bulletin for information on the requirements to complete this certificate.

Certificate in Historic Preservation

Historic areas are not just buildings, but spaces and communities with pasts and futures. They require a variety of approaches to be understood, such as historical, anthropological, ethnographic, architectural, and art historical. They also require an awareness of a variety of complicated processes to preserve, such as urban planning and administration, law, business and economics, and popular culture.

The certificate program in historic preservation is intended to provide students with a framework of related courses in various disciplines so that they can expand their knowledge of this area of study and enhance their opportunities for further education and employment in the field. See the CAS Certificate Programs section of this bulletin.

HISTORY AND PHILOSOPHY OF SCIENCE (HPS)

Students of history and philosophy of science develop a deep appreciation of the many interrelations between the sciences and the humanities. Through the history of science, they learn how the modern sciences came to be and how their birth and growth was strongly influenced by a myriad of factors in the philosophical, religious, cultural, and political contexts. Through the philosophy of science, students develop a critical understanding of the methods and presumptions of science in general as well as the fundamental principles and special problems of the individual sciences. Students also study the enduring importance of the sciences to the broader society in its many facets, including its philosophy, religion, culture, and politics. The ultimate goal of study is a unified understanding of science and the humanities that synthesizes the perspectives and methods of the historian, the philosopher, and the scientist.

A major in HPS is an excellent choice for students who want to combine course work in the sciences with work in the social sciences and humanities. Because HPS courses are closely tied to the sciences, and because HPS majors are expected to complete 15 credits of science, a double major in HPS and one of the sciences is especially attractive.

Major Requirements

Before declaring a major, students must complete at least two HPS courses with a B- or better and pass HPS 0611 Principles of Scientific Reasoning or PHIL 0500 Introduction to Logic with a B- or better, or receive the permission of the major advisor. HPS majors must complete a minimum of 36 credits in the major, including the following:

- Four elective courses in HPS, one of which should be at the 1000 level
- The logic requirement, which may be fulfilled by taking HPS 0611 Principles of Scientific Reasoning or PHIL 0500 Introduction to Logic

- HPS 1653 Introduction to Philosophy of Science
- HPS 1702 Junior/Senior Seminar for HPS Majors Prerequisites: HPS 0611 Principles of Scientific Reasoning or PHIL 0500 Introduction to Logic, HPS 1653 Introduction to Philosophy of Science, a history of science course (e.g., HPS 0427 Myth and Science, HPS 0545 Space-Time-Matter: From Antiquity to the 20th Century, HPS 0515 Magic, Medicine, and Science), or any other suitable course approved by the director of HPS undergraduate studies
- HPS 1703 Writing Workshop for HPS Majors

Other Requirements and Information for HPS Majors

- Students must maintain at least a 2.00 QPA in all HPS courses to graduate with an HPS major.
- Letter grades are required for all course work counting toward the major.
- Any of the natural or social sciences is acceptable for the CAS required 12-credit related area. Majors must pursue at least one science at an advanced level.
- In addition to the major, the department offers a certificate program in conceptual foundations of medicine designed especially for students who wish to develop a multidisciplinary understanding of modern medicine. (See CAS Certificate Programs for information.)

LINGUISTICS

Linguistics is concerned with the study of language as a core property of human cognition and interaction. It is a broad field that straddles the humanities, social sciences, and natural sciences. Major areas of study in linguistics include the following fields:

- Applied linguistics: second-language learning theory, literacy, bilingual education
- Computational linguistics: natural language generation, knowledge representation and artificial intelligence, recognition of systems
- Theoretical linguistics: development of psychologically plausible models of language sound systems, word structure, sentence and discourse structure, meaning
- Historical and comparative linguistics: study of language history, both language change and relationships among languages
- Descriptive-anthropological linguistics: documentation and analysis of languages, especially little-known languages through field work
- Psycholinguistics: research on such topics as sentence processing, problems in reading, how children acquire their first language (childhood language acquisition)
- Sociolinguistics: study of language use and socially controlled variation in form, conversation and narrative discourse, social trends reflected in language use, political aspects of language use

Careers in linguistics include teaching English as a second language and other languages including American Sign Language; computational linguistic research in industry and public agencies; field research on endangered languages and cultures; research and teaching at the university level; careers in publishing and advertising; speech pathology and rehabilitation; translation and interpreting; law; and governmental consulting on language policies. Most careers in linguistics require graduate training.

Many, but certainly not all, people come to linguistics through a love of languages. However, love of languages itself is not sufficient to ensure success and happiness as a linguistics major. The student must also enjoy analytical thought, as linguists employ analytical tools in the study of human languages. Students considering a major in linguistics should take the introductory linguistics course (LING 1950 Introduction to Linguistics) at their earliest opportunity to help gauge if the major is right for them. The linguistics major gives students a solid foundation in the central areas of linguistic theory and analysis. The structure of human language (its sounds, word structures, and syntax) is the focus of the linguistics courses required for the major. In addition, the major's language requirement is designed to make sure students acquire a perspective on linguistic structures besides those of their native language and at least some exposure to one language that is structurally very unlike English. For more information on the major or the Department of Linguistics, see www.linguistics.pitt.edu.

Major Requirements

Students must complete at least 24 credits in the linguistics department including the following courses:

- LING 1950 Introduction to Linguistics
- LING 1682 Introduction to Semantic Theory or LING 1860 Introduction to Historical Linguistics
- LING 1773 Morphology
- LING 1777 Syntactic Theory
- LING 1578 Phonetics and Phonemics
- LING 1579 Phonology

A student may petition to have a given requirement waived if an equivalent course was completed elsewhere before registering as a departmental major.

Other requirements and rules for linguistics majors are as follows:

- Knowledge of any foreign language equivalent to one year of college-level study is required. The student's knowledge of the language may be evaluated if first-year college-level courses are not taken.
- Majors must have at least a 2.00 QPA in linguistics courses.
- No more than 6 credits may be taken on the S/N basis.
- Credit by examination is not available.
- Courses for the W requirement and for the CAS required 12-credit related area are chosen in consultation with the departmental advisor. Besides language and foreign literature departments, the most appropriate related areas are anthropology, communication, computer science, English, history and philosophy of science, psychology, philosophy, sociology, and theatre arts.

- LING 0080 Aspects of Language and LING 0101–0964 (uncommonly taught languages) do not count toward the major.
- Any student considering graduate work in linguistics, especially at the PhD level, should take French, German, or Russian. In addition to the language requirement described above, the student must take three more terms of language study (although in special cases, students may petition to have part of this requirement waived). At least 3 credits of this additional requirement must be taken in some language that is not Romance (including Latin), Germanic, Baltic, Slavic, or Greek, unless the language chosen to fulfill the language requirement above falls into this category.

Note: *Courses offered by the English Language Institute for students who are learning or improving their English language skills do not count toward the linguistics major.*

Undergraduate Minor in Linguistics

An undergraduate minor in Linguistics would be particularly useful for students majoring in English, foreign languages, philosophy, anthropology, psychology, sociology, communications, speech science, neuroscience, computer science, and information science, as well as for students with an interest in teaching English as a second language, going to law school, or otherwise choosing a profession in which language plays a crucial part.

Academic Requirements

The minor consists of 15 credits and comprises the following courses:

- LING 1950 Introduction to Linguistics
- LING 1578 Phonetics and Phonemics
- LING 1777 Syntactic Theory
- Two electives, chosen from the linguistics courses at the 1000 level, (e.g., Phonology, Morphology, Historical Linguistics, Aspects of Sociolinguistics, Introduction to Applied Linguistics)

MATHEMATICS

The Department of Mathematics offers course work leading to a Bachelor of Science degree in mathematics as well as various courses for nonmajors. Students concentrating in mathematics may pursue majors in mathematics or applied mathematics or pursue joint majors in mathematics and economics, philosophy, or scientific computing. Each of the department's majors has its own philosophy and its own formal requirements, so students should consult with a major advisor and read the Student Handbook for Majors and Joint Majors, available from the departmental office. For more information on these majors and the Department of Mathematics, see www.math.pitt.edu.

Shared Requirements for Mathematics and Applied Mathematics

The mathematics department offers a major in mathematics and a major in applied mathematics. Each of those majors is subject to the following shared rules and requirements:

- Majors must complete 40 credits (see below for curriculum details on each major) with a grade of C or higher in each course for the major and at least a 2.00 QPA overall in mathematics courses. The S/N grade option is not permitted.
- MATH 0413 Introduction to Theoretical Mathematics meets the departmental W requirement.
- Credit by examination is usually available only through the placement testing offered for incoming students.
- Appropriate courses for the CAS required 12-credit related area are determined in consultation with the mathematics advisor. A 12-credit related area for applied mathematics majors must be approved by the Undergraduate Committee.
- Students considering graduate work in mathematics should be aware that many programs require a reading knowledge of one or two foreign languages from among French, German, and Russian.
- To graduate with honors in mathematics or applied mathematics, students must meet the following requirements:
  - Completion of all mathematics requirements
  - Completion of each of the following courses with a grade of B or better:
    - MATH 1250 Abstract Algebra or (for applied mathematics majors only) 1470 Partial Differential Equations 1
    - MATH 1530 Advanced Calculus 1
    - MATH 1540 Advanced Calculus 2
    - MATH 1800 Advanced Topics in Mathematics or 1801 Advanced Topics in Mathematics
    - Completion of an honors thesis under the direction of a member of the mathematics faculty or completion of a second course from the pair 1800/1801 in lieu of the honors thesis

  The statistics requirement is waived for mathematics majors graduating with honors. Although not required, it is recommended that honors candidates take the intermediate honors courses MATH 0450 Introduction to Analysis and MATH 1185 Honors Linear Algebra during their freshman and sophomore years.

Curriculum for Mathematics Major

The requirements for the mathematics major are flexible so as to enable students to follow their interests. After calculus and a sequence of three basic theoretical courses, students complete the major with six or more upper-level courses. No single course may be used to fulfill two requirements. Courses for the mathematics major are distributed as follows:

- All of the following, totaling 12 credits: MATH 0220, 0230, and 0240 Analytic Geometry and Calculus 1, 2, and 3
- All of the following, totaling 10 credits:
  - MATH 0413 Introduction to Theoretical Mathematics

  - MATH 0420 Introductory Theory 1 Variable Calculus
  - MATH 0430 Introduction to Abstract Algebraic Systems
- One of the following, totaling 3 credits: MATH 1180 Linear Algebra 1 or 1185 Honors Linear Algebra
- The 3-credit MATH 1270 Ordinary Differential Equations 1
- One of the following, totaling 3 credits:
  - MATH 1020 Applied Elementary Number Theory
  - MATH 1050 Combinatorial Mathematics
  - MATH 1240 Linear Algebra 2
  - MATH 1250 Abstract Algebra
- Three of the following, totaling 9 credits:
  - MATH 1020 Applied Elementary Number Theory
  - MATH 1050 Combinatorial Mathematics
  - MATH 1070 Numerical Mathematical Analysis
  - MATH 1080 Numerical Linear Algebra
  - MATH 1100 Linear Programming
  - MATH 1110 Industrial Mathematics
  - MATH 1240 Linear Algebra 2
  - MATH 1250 Abstract Algebra
  - MATH 1280 Ordinary Differential Equations 2
  - MATH 1290 Topics in Geometry
  - MATH 1310 Graph Theory
  - MATH 1330 Projective Geometry
  - MATH 1350 Introduction to Differential Geometry
  - MATH 1360 Modeling in Applied Mathematics
  - MATH 1410 Introduction to Foundations of Mathematics
  - MATH 1470 Partial Differential Equations 1
  - MATH 1530 Advanced Calculus 1
  - MATH 1540 Advanced Calculus 2
  - MATH 1550 Vector Analysis and Applications
  - MATH 1560 Complex Variables and Applications
  - MATH 1570 Transform Methods in Applied Math
  - MATH 1700 Introduction to Topology
  - MATH 1800 Advanced Topics in Mathematics
  - MATH 1801 Advanced Topics in Mathematics
  - STAT 1631 Intermediate Probability
  - STAT 1632 Intermediate Mathematical Statistics
- The 4-credit PHYS 0174 Basic Physics for Science and Engineering 1

Curriculum for Applied Mathematics Major

The course requirements for the applied mathematics major are distributed as follows. Since different program emphases are possible, students should consult the advisor as early as possible in regards to selection of courses:

- All of the following, totaling 12 credits: MATH 0220, 0230, and 0240 Analytic Geometry and Calculus 1, 2, and 3
- Both of the following, totaling 7 credits: MATH 0413 Introduction to Theoretical Mathematics and MATH 0420 Introductory Theory 1 Variable Calculus
- One of the following: MATH 1180 Linear Algebra 1 or 1185 Honors Linear Algebra
- The three-credit MATH 1270 Ordinary Differential Equations 1
- One of the following, totaling 3 credits: MATH 1110 Industrial Mathematics or 1360 Modeling in Applied Math 1
- One of the following courses:
  - MATH 1070 Numerical Mathematical Analysis
  - MATH 1080 Numerical Linear Algebra
  - MATH 1100 Linear Programming
  - MATH 1110 Industrial Mathematics
- One of the following courses from the applied analysis group:
  - MATH 1550 Vector Analysis and Applications
  - MATH 1560 Complex Variables and Applications
  - MATH 1570 Transform Methods in Applied Math
- One additional course from the previous two categories above, or one course from the differential equations group:
  - MATH 1280 Ordinary Differential Equations 2
  - MATH 1470 Partial Differential Equations 1
  - MATH 1480 Partial Differential Equations 2
- Both of the following: PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2
- One of the following:
  - CS 0401 Introduction to Computer Science
  - CS 0132 Programming in C and a Guide to the UNIX Operating System
  - CS 0007 Introduction to Computer Programming: Pascal
- One of the following: STAT 1000 Applied Statistical Methods or STAT 1151 Introduction to Probability

Students interested in graduate study are strongly advised to take MATH 1530 and 1540 Advanced Calculus 1 and 2. These two courses may be substituted for the course in applied analysis and for the course specified in the eighth requirement above.

Mathematics-Economics Joint Major Requirements

Students seeking a mathematics and economics joint major must adhere to the following rules and requirements:

- Completion of at least 58 credits in mathematics and economics courses (see below for detail).
- Earn at least a 2.00 in all courses required for the major. The S/N option is not permitted.
- The CAS 12-credit related area is not required.
- Students should check with the departmental advisors in mathematics and economics about the required W course.
- Students planning to do graduate study should keep in mind that many graduate programs require reading knowledge of one or two foreign languages.

The joint major provides not only a set of requirements but also suggested course sequences of mathematics and economics courses that are compatible with each other and that prepare students for various specialties. The courses to be completed are as follows:

- Required Courses in Mathematics (31 credits)
  - MATH 0220, 0223, and 0224 Analytic Geometry and Calculus 1, 2, and 3
  - MATH 0413 Introduction to Theoretical Mathematics, 0420 Introductory Theory 1 Variable Calculus, 0430 Introduction to Abstract Algebraic Systems
  - STAT 1151 Introduction to Probability and 1152 Introduction to Mathematical Statistics
  - MATH 1180 Linear Algebra 1 or MATH 1185 Honors Linear Algebra

In addition, students are strongly recommended to take at least one field course in mathematics to be chosen from the following groups:

- Economic Theory:
  - MATH 1100 Linear Programming
  - MATH 1250 Abstract Algebra
  - MATH 1270 Ordinary Differential Equations 1
  - MATH 1700 Introduction to Topology
- Econometrics:
  - STAT 1221 Applied Regression
  - STAT 1311 Applied Multivariate Analysis
  - STAT 1321 Applied Time Series
  - STAT 1631 Intermediate Probability
  - STAT 1632 Intermediate Mathematical Statistics
  - STAT 1661 Linear Regression
  - STAT 1761 Game Theory
- Mathematical Economics:
  - MATH 1100 Linear Programming
  - MATH 1270 Ordinary Differential Equations 1
  - MATH 1700 Introduction to Topology
- Other Mathematics:
  - MATH 1070 Numerical Mathematical Analysis
  - MATH 1080 Numerical Linear Algebra
  - MATH 1110 Industrial Numerical Analysis
- Required Courses in Economics (27 credits)
  - ECON 0100 Introduction to Microeconomic Theory
  - ECON 0110 Introduction to Macroeconomic Theory
  - ECON 1100 Intermediate Microeconomics
  - ECON 1110 Introduction to Macroeconomics
  - ECON 1150 Applied Econometrics 1 or 2150 General Econometrics; and 1140 Economic Modeling and Forecasting or 1160 Applied Econometrics 2 or 2160 Econometrics for Practitioners
  - ECON 1130 Operations Research Analysis or 1180 Mathematical Economics or 2170 Mathematical Economics
- Six credits of field courses (This requirement may be satisfied with any field courses offered by the department except any ECON 0800 series.)

To qualify for departmental honors in the mathematics and economics joint major, students must meet the following requirements:

- Complete the required economics courses with the added stipulation that either ECON 1180 Mathematical Economics or 2170 Mathematical Economics and a proseminar must be one of the field courses chosen.
- Complete the following 27 credits in lieu of those normally taken:
  - MATH 0235 Honors 1 Variable Calculus
  - MATH 0240 Analytic Geometry and Calculus 3
  - MATH 0450 Introduction to Analysis
  - STAT 1151 Introduction to Probability
  - STAT 1152 Introduction to Mathematical Statistics
  - MATH 1185 Honors Linear Algebra
  - MATH 1530 Advanced Calculus 1
- One additional 1000-level course
- Maintain a QPA of at least 3.00 in mathematics courses, at least 3.25 in economics courses, and at least 3.25 overall.

Mathematics and Philosophy Joint Major Requirements

For the mathematics and philosophy joint major, students must take a minimum of 55 credits in a series of basic and field courses as detailed below:

- Basic courses totaling 25 credits (presumably completed by the end of the sophomore year):
  - The basic introductory sequence in mathematics (or its equivalent), including:
    - MATH 0220, 0230, and 0240 Analytic Geometry and Calculus 1, 2, and 3
    - MATH 0413 Introduction to Theoretical Mathematics
    - MATH 0420 Introductory Theory 1 Variable Calculus
    - MATH 0430 Introduction to Abstract Algebraic Systems
  - PHIL 0200 History of Ancient Philosophy and 0210 History of Modern Philosophy. Some other introductory philosophy course may be substituted for either 0200 or 0210 with the consent of the advisor.
- Field courses (at least 30 credits of work in upper-level mathematics and philosophy) normally distributed as follows:
  - MATH 1530 Advanced Calculus 1
  - One course from each of the following groups:
    - MATH 1540 Advanced Calculus 2
    - MATH 1180 Numerical Linear Algebra or 1250 Abstract Algebra
    - MATH 1700 Introduction to Topology or 1290 Topics in Geometry
  - MATH 1410 and 1420 Introduction to Foundations of Mathematics 1 and Foundations of Mathematics 2
  - Three upper-level philosophy courses (9 credits), including at least one of the following topics: philosophy of mathematics, philosophy of logic, or philosophy of science or semantics, and at least one course not concerned with any of these topics.

Note: *By the end of the junior year, students in the joint major are expected to have completed PHIL 1500 Symbolic Logic. By the end of the senior year, students are expected to have completed PHIL 1520 Logical Metatheory.*

Mathematics and philosophy joint majors must also adhere to the following rules and requirements:

- Students should take all required courses for letter grades. The S/N grade is not an option.
- Students should check with the advisor for courses that will meet the required W requirement.
- Students are not required to complete the normal CAS requirement of a related area.
- Students should keep in mind that many graduate programs require a reading knowledge of one or two foreign languages.

The mathematics and philosophy departments offer a program leading to graduation with departmental honors in the joint major. Students seeking departmental honors will be asked to prepare an oral presentation on some topic to be selected in consultation with members of the faculty. Candidates for departmental honors will be examined by a

committee of three faculty members from the departments of mathematics and philosophy on their knowledge of logic and the foundations of mathematics.

Scientific Computing Major Overview

The scientific computing major, offered jointly by the Department of Computer Science and the Department of Mathematics, is an excellent choice for students interested in computer science and applied mathematics who desire an exciting and stimulating career in industry or a research laboratory. Scientific computing studies the modeling, visualization, and computational stimulation of physical processes. The major synthesizes the revolutionary advances in computer technology and the algorithms of computational mathematics and focuses these powerful tools on practical problems.

The major's approach to design, prediction, control, and optimization is flexible, powerful, and inexpensive, and so it is little wonder that there is a demand for specialists trained in this area. Specialists in the emerging field of scientific computing are employed in industry and research laboratories dealing with scientific, engineering, and technological problems. They are key members of research and development teams dealing with modeling, design, stimulation, optimization, and control of practical problems. The scientific computing degree will provide a strong background, balanced between computational mathematics and applied computer science, for students seeking a career in scientific computing. With careful choice of electives, it also prepares a student for graduate study in computer science and computational mathematics.

Scientific Computing Major Requirements

The major in scientific computing consists of at least 52 credits in mathematics and computer science, including the following:

- Basic Courses
  - MATH 0400 Discrete Mathematical Structures or CS 0441 Discrete Structures for Computer Science
  - MATH 1110 Industrial Mathematics or CS 1538 Introduction to Stimulation
  - MATH 0220, 0230, and 0240 Analytic Geometry and Calculus 1, 2, and 3
  - One of the following MATH courses:
    - 0250 Matrix Theory and Differential Equations
    - 0280 Introduction to Matrices and Linear Algebra
    - 1180 Linear Algebra 1
    - 1185 Honors Linear Algebra
  - The following CS courses:
    - 0401 Introduction to Computer Science
    - 0445 Introduction to Information Structures
    - 0447 Computer Organization and Assembly Language Programming
    - 1501 Data Structures and Algorithms
- Advanced Courses
  - MATH 1070 Numerical Mathematical Analysis and 1080 Numerical Linear Algebra
  - One of the following MATH courses:
    - 1100 Linear Programming
    - 1270 Ordinary Differential Equations 1
    - 1470 Partial Differential Equations 1
  - CS 1566 Introduction to Computer Graphics and CS 1645 Introduction to High Performance Computing Systems
  - One of the following CS courses:
    - 1510 Design and Analysis of Algorithms
    - 1520 Programming Languages
    - 1530 Software Engineering
    - 1541 Introduction to Computer Architecture
    - 1555 Database Management Systems
- Scientific computing majors must also follow these rules and requirements to complete the major:
  - Students must complete at least 12 credits in a related area of physical or biological science, economics, or an approved area of engineering. The course sequence must be approved by the Program Committee.
  - A grade of C or higher is required in each course for the major.
  - Students contemplating graduate study should discuss with their advisor as early as possible the additional courses they should take to prepare for graduate study in their desired area.
  - The departmental W course requirement may be satisfied by MATH 1110 Industrial Mathematics. Certain required computer science (CS) courses may occasionally be offered as W courses, but CS W-designated courses vary from term to term.

MUSIC

The Department of Music makes music through composition, improvisation, and performance and explores music's meaning in the structure of individual works, the relations between them, and their place in the cultures that produce them. One of the most exciting things about music is that it brings together different types of thought and action. The most sensory and practical things and the most theoretical and abstract ones cannot be separated in the musician's world. Thus, music enjoys a special place in the endeavor to understand ourselves. The program for majors is designed to introduce students to all the above ideas and activities, and students throughout the University are invited to join in any of them. In support of this multifaceted program, the department has assembled a diverse faculty, including experts in composition, performance, theory, history, jazz, and ethnomusicology and is committed to the principle of conducting its activities within an atmosphere that encourages communication and cooperation within that diversity. The department also welcomes double majors from all colleges within the University. For more information on the major, the minor, and the Department of Music, see www.pitt.edu/~musicdpt.

Note: *Students considering declaring a music major must take the Music Theory Placement test, available at the CAS Advising Center.*

Major Requirements

The music major, which includes the option to pursue either the standard music track or the jazz track major, requires a total of 40 credits. Music majors may earn an additional 20 credits in music courses towards the CAS graduation requirement of 120 credits. Required credits include the following:

- Prerequisite courses (6 credits)
  - MUSIC 0131 Preparation for Music Theory
  - MUSIC 0111 Keyboard Harmony

Both courses may be taken during either the fall or spring term. Prerequisite courses should be taken in the freshman year if a student plans to declare a music major. The prerequisite courses do not count toward the major and are intended to prepare students in music theory and harmony. The theory course (MUSIC 0131) must be passed with a B- or better in order for a student to be accepted as a music major. All students considering a music major must take a music theory placement examination prior to enrolling in the music theory course. Students may exempt prerequisites through credit by examination.

- Required courses

All music majors must take the following courses, all of which must be taken for a letter grade:

  - MUSIC 0411, 0415, 0417, and 0419 Theory 1, 2, 3, and 4
  - MUSIC 0412, 0416, 0418, and 0420 Musicianship 1, 2, 3, and 4
  - MUSIC 0222 History of Western Music to 1750
  - MUSIC 0224 History of Western Music since 1750

- Applied music requirements

All music majors are required to take three semesters of private lessons and three semesters of ensemble participation. Private lessons are available on a fee basis, and music majors have first priority in scheduling.

- Additional Requirements for the standard music track

Students pursuing the standard music track must take the following:

  - One course from the MUSIC 1200 series
  - MUSIC 0311 Introduction to World Music or one course from the MUSIC 1300 series
  - One course from the MUSIC 1400 series
  - One additional course chosen from the MUSIC 1200, 1300, or 1400 series or MUSIC 1904 Senior Seminar
  - Additional requirements for the jazz music track

Students pursuing the jazz music track must take the following:

- MUSIC 0711 History of Jazz
- MUSIC 1326 Afro-American Music in the U.S.
- MUSIC 1731 Jazz Arranging 1
- MUSIC 1741 Jazz Improvisation 1

Minor Requirements

The music minor offers a coherent sequence of courses that will provide students with a reasonably broad introduction to the historical, theoretical, and practical branches of music. Required courses, totaling 19 credits, are as follows:

- MUSIC 0131 Preparation for Music Theory
- MUSIC 0111 Keyboard Harmony
- MUSIC 0411 and 0415 Theory 1 and 2
- MUSIC 0412 and 0416 Musicianship 1 and 2
- MUSIC 0222 History of Western Music to 1750 or 0224 History of Western Music since 1750
- Two semesters of ensemble participation

Note: *The department recommends that students considering a music minor take the prerequisite courses in the freshman year.*

It is possible for students to test out of one or more of the required keyboard harmony, music theory, and/or musicianship courses; students should consult with the undergraduate advisor and/or the course instructor. The S/N grading option is not permitted for required courses for the minor. All students interested in taking private lessons must complete a Request for Private Lessons form in the music department office, Room 110, Music Building. Music majors have first priority in scheduling private lessons, which cost an additional $240 per term.

NEUROSCIENCE

Neuroscience is the study of the biology and function of the central nervous system, with a special focus on the brain. The field has emerged during the past two decades as part of the explosive growth of research and interest in the neural sciences. An autonomous major in neuroscience was developed at the University of Pittsburgh in 1983, and it is among the largest undergraduate programs in neuroscience in the country, with more than 165 students as majors.

The Bachelor of Science degree in neuroscience prepares students for the following:

- Advanced study in health-related fields, such as medicine, dentistry, pharmacy, public health, physical therapy, physician assistant, and exercise physiology;
- Graduate training in neuroscience and related fields in the biological sciences, and for a future career in a university, research institute, pharmaceutical company, or hospital;
- Research assistant positions in pharmaceutical, hospital, and university settings; and
- Public and private high school teaching following the completion of the teacher certification program in the School of Education.

The neuroscience major is designed to provide a broad and challenging sequence of courses in biological sciences, chemistry, mathematics, and physics, in addition to introductory and advanced courses in neuroscience. Students also may receive credit for original research projects they conduct in collaboration with faculty members. The relatively small size of the upper-level courses, the excellence of teaching, and the opportunity for research

have been found to be especially attractive features of the major. A minor in neuroscience is also available. For more information on the major, the minor, and the Department of Neuroscience, see www.pitt.edu/~neurosci.

Major Requirements

Neuroscience majors must complete a minimum of 59 credits, detailed as follows:

- Required Courses
  - NROSCI 1000 Introduction to Neuroscience or 1003 UHC (University Honors College) Introduction to Neuroscience
  - NROSCI 1011 Functional Neuroanatomy
  - NROSCI 1012 Neurophysiology
  - NROSCI 1017 Synaptic Transmission
  - NROSCI 1800 Neuroscience Writing Practicum 1 or
  - NROSCI 1962 Thesis Research Writing practicum
  - Two advanced electives to be chosen from:
    - NROSCI 1020 Homeostasis
    - NROSCI 1022 Hormones and Brain Function
    - NROSCI 1030 Psychiatric Disorders and Brain Function
    - NROSCI 1032 Functional Organization of the Human Nervous System
    - NROSCI 1034 Neural Basis of Cognition
    - NROSCI 1040 Biological Bases of Learning and Memory
    - NROSCI 1041 Developmental Neuroscience
- Corequisite Courses

It is recommended that students complete introductory biology, chemistry, and physics courses during freshman and sophomore years. Premed students should also take PHYS 0212 Introduction to Laboratory Physics or 219 Basic Lab Physics for Science and Engineering and a statistics course to meet medical school requirements.

  - BIOSC 0150, 0160, 0050, and 0060 Foundations of Biology 1 and 2 and labs
  - BIOSC 1000 Biochemistry
  - CHEM 0110 and 0120 General Chemistry 1 and 2
  - CHEM 0310 Organic Chemistry 1
  - CHEM 0320 Organic Chemistry 2
  - CHEM 0330 Organic Chemistry Lab 1
  - CHEM 0340 Organic Chemistry Lab 2
  - MATH 0220 Analytic Geometry and Calculus 1
  - NROSCI 1070 UHC Human Physiology or 1250 Human Physiology
  - PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2 or 0110 and 0111 Introduction to Physics 1 and 2

- Grade requirements for the major are as follows:
  - Students majoring in neuroscience must take all required courses for a letter grade.
  - NROSCI 1000 Introduction to Neuroscience or 1003 UHC Introduction to Neuroscience must be passed with a C or better. Grades in the remaining core courses and two advanced electives are averaged. All of these courses must be passed, and the average QPA must be 2.00 or better.
  - In the corequisites, a passing grade below C may be accepted only if it is balanced with higher grades, so that the total QPA in corequisite courses is 2.00 or better. This requirement applies collectively to corequisite courses taught in the Department of Neuroscience (e.g., NROSCI 1070 UHC Human Physiology) and those taught in other departments.
  - Majors must have a grade of C (C- will not do) in NROSCI 1000 Introduction to Neuroscience and 1003 UHC Introduction to Neuroscience as a prerequisite to taking any other departmental core or advanced elective courses.

Department Honors and Undergraduate Research

- To qualify for departmental honors, students need to maintain a minimum overall QPA of 3.25 as well as a QPA of 3.25 in the neuroscience major. In addition, students must complete a substantial amount of experimental research on an approved research project and give a public presentation of the work. The full faculty of the department approves departmental honors after consideration of all eligible students.
- The Department of Neuroscience encourages interested undergraduate majors to gain research experience within an active neuroscience laboratory. The department is a world-class research department committed to high quality research and sharing the excitement of scientific exploration with trainees. Majors are encouraged to take advantage of the opportunity to do meaningful neuroscience research while still undergraduates. It is not unusual for majors to report their research at scientific meetings and to be published. While research experience itself has strong benefits, it is also useful for interacting more closely with professors and enhancing preparation for graduate or medical school. Most undergraduates who enroll in research for credit are interested in completing an independent project that results in an undergraduate thesis.

Minor Requirements

A minimum of 14 credits is required for a neuroscience minor. The minor includes the following:

- NROSCI 1000 Introduction to Neuroscience or 1003 UHC Introduction to Neuroscience with a grade of C or better
- Three core courses: NROSCI 1011 Functional Neuroanatomy, 1012 Neurophysiology, and 1017 Synaptic Transmission
- As an alternative to the three core courses, students may take two of the core courses and at least one advanced elective.

PHILOSOPHY

The University of Pittsburgh has one of the best philosophy departments in the country, one with a long tradition of fine teaching. A major in philosophy provides excellent preparation for such professions as law, medicine, and business. The conceptual sophistication imparted by training in philosophy is invaluable in virtually any field of learning or any serious profession. For example, students who are majoring in biology, psychology, history, or computer science would do well to pick up a second major in philosophy, something the Department of Philosophy encourages by offering a standard major track along with its more time-consuming intensive major track. A minor in philosophy is also available. While the department encourages students to major in philosophy, either alone or as a second major, only rarely does it encourage students to pursue philosophy in graduate school as preparation for a scholarly career. Students who do especially well in either the standard or intensive major program are graduated with honors in philosophy. Because of the national reputation of the philosophy department, a major in philosophy or honors in philosophy should materially help University of Pittsburgh graduates get into good graduate schools or professional schools. For more information on the program and the Department of Philosophy, see www.pitt.edu/~philosop.

Major Requirements

The standard philosophy major track requires at least 24 credits, while the intensive philosophy major track requires a minimum of 36 credits, as detailed below:

- The standard major track requires the following courses:
  - PHIL 0500 Introduction to Logic or 1500 Symbolic Logic
  - PHIL 0200 History of Ancient Philosophy or 1020 Plato or 1040 Aristotle
  - PHIL 0210 History of Modern Philosophy or 1110 Rationalism or 1140 Empiricism
  - PHIL 0300 Introduction to Ethics or 0350 Philosophy and Public Issues or any 1300-level course (the value theory group)
  - Any four 1000-level courses beyond those outlined above
- The intensive major track requires the following courses:
  - PHIL 0500 Introduction to Logic (or 1500 Symbolic Logic)
  - PHIL 0200 History of Ancient Philosophy (or 1020 Plato or 1040 Aristotle)
  - PHIL 0210 History of Modern Philosophy (or 1110 Rationalism or 1140 Empiricism)
  - At least five 1000-level courses beyond those counted above to include at least one course from each of the four groups:
    - PHIL 1020–1190 History of Philosophy
    - PHIL 1300–1390 Value Theory
    - PHIL 1420–1490 Metaphysics and Epistemology
    - PHIL 1500–1690 Logic and Philosophy of Science
  - An acceptable senior paper. The student must sign up either for PHIL 1940 Honors Thesis (3 credits) or PHIL 1940 and 1941 Honors Thesis 1 and Honors Thesis 2 (6 credits), with the prior permission of a faculty member who has agreed to supervise the student's work. Neither PHIL 1940 nor 1941 counts toward the five 1000-level courses mentioned above.
- The following rules and requirements apply to all philosophy majors, regardless of the track chosen:
  - Only those philosophy courses completed with a grade of C or better will count for the major.
  - No restrictions are placed on the number of courses taken under the S/N option.
  - Arrangements for credit by examination in appropriate cases may be made through departmental advisors.
  - There are no departmental foreign language requirements; however, students who plan to pursue philosophy in graduate school are strongly encouraged to develop at least a good reading competence in one or more foreign languages of special relevance to philosophy (e.g., Greek, Latin, French, and German).
  - Joint majors are not double majors but multidisciplinary majors offered by two or more departments. Presently, the Department of Philosophy offers a joint major in politics and philosophy with the Department of Political Science (see Politics and Philosophy major information under Nondepartmental CAS Majors) as well as a joint major in mathematics and philosophy with the Department of Mathematics (see Mathematics-Philosophy).
  - Students who complete the philosophy major (standard or intensive track) or joint major will be graduated with honors in philosophy if they have earned a grade of A- or better in at least six 1000-level philosophy courses exclusive of 1902 Directed Study, 1903 Directed Research, 1940, 1941, and 1942 Honors Thesis.

Minor Requirements

The philosophy minor requires six 3-credit courses (18 credits total) to be distributed as follows:

- PHIL 0500 Introduction to Logic or 1500 Symbolic Logic
- PHIL 0200 History of Ancient Philosophy or 1020 Plato
- PHIL 0210 History of Modern Philosophy or 1110 Rationalism or 1140 Empiricism
- Any course in moral, social, or political philosophy; PHIL 0300 Introduction to Ethics is preferred, but any of the following is acceptable:
  - PHIL 0320 Social Philosophy
  - PHIL 0330 Political Philosophy
  - PHIL 0350 Philosophy and Public Issues
  - PHIL 0360 Morality and Medicine
- Any course in the 1300s Value Theory, Social and Political Philosophy

Note: *At least one of the above four courses (numbers one-four) must be taken at the 1000 level.*

- Two additional 1000-level courses must be completed.

PHYSICS AND ASTRONOMY

The Department of Physics and Astronomy offers three major degree options: a BS in physics, a BS in physics and astronomy, and a BA in physics and astronomy. The BS degrees are intended for students who wish to prepare for graduate school in a scientific or technical discipline or who are interested in professional careers in which a background in physics or astronomy is appropriate. The BA degree is designed primarily for students who wish to develop a general scientific background appropriate for many careers including health-related professions or MBA programs. The Certificate in Photonics may be added by students in the bachelor of science physics program.

Students planning to pursue a degree within the department are urged to consult a departmental advisor at any time during the freshman year and should obtain a copy of the department's brochure for undergraduates in 100 Allen Hall.

*The department offers the physics minor, best suited for students from other schools.

The department wishes to emphasize that its 0080s courses, in both physics and astronomy, use little mathematics and are especially designed for liberal arts students.

Requirements for all Physics or Physics and Astronomy Majors

Students who wish to graduate with any of the majors offered by the Department of Physics and Astronomy must follow these general rules and requirements:

- Attain a minimum QPA of 2.00 overall in physics courses. Honors majors must attain a minimum QPA of 3.00 in physics courses.
- There are no restrictions on the S/N grade option for BA majors, but BS majors must take all physics courses beyond the introductory level for letter grades.
- Students should consult with a department advisor about the W course requirement.
- All majors in the physics and astronomy department automatically fulfill the CAS requirement for a 12-credit related area by taking the mathematics courses required for majors.
- Students considering graduate studies should have a reading knowledge of one or two foreign languages selected from German, French, and Russian.

Curriculum for a BS in Physics and Astronomy

The following courses are required for a BS degree in physics and astronomy:

- PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2 or 0475 and 0476 UHC (University Honors College) Introduction Physics for Science and Engineering 1 and 2. The department recommends the honors sequence.
- PHYS 0219 Basic Lab Physics for Science and Engineering
- PHYS 0160 Intermediate Electricity/Magnetism
- PHYS 0167 Undergraduate Seminar
- PHYS 0368 Wave Motion and Optics
- PHYS 1150 Mechanics

Note: *PHYS 0577 UHC Modern Physics Measurements may replace PHYS 0219 Basic Lab Physics for Science and Engineering and PHYS 1225 Analog and Digital Electronics.*

- PHYS 1151 Computational Methods in Physics
- PHYS 1119 and 1120 Principles of Modern Physics 1 and 2
- PHYS 1225 Analog and Digital Electronics
- ASTRON 0113 Introduction to Astronomy
- ASTRON 1120 Stars: Stellar Structure and Evolution
- ASTRON 1121 Galaxies and Cosmology
- ASTRON 1263 Techniques of Astronomy
- GEOL 1701 Geology of the Planets
- MATH 0220, 0230, 0240 (Analytic Geometry and Calculus 1, 2, and 3
- MATH 0250 Matrix Theory and Differential Equations
- CHEM 0110 and 0120 General Chemistry 1 and 2; honors versions may be substituted or CS 0401 and 0445 Introduction to Computer Science and Introduction to Information Structures, unless Certificate in Photonics is desired

Curriculum for an Honors BS in Physics and Astronomy

The following courses are required for an honors BS in physics and astronomy in addition to the standard requirements for a BS in physics and astronomy degree:

- PHYS 1141 Thermodynamics and Statistical Mechanics
- PHYS 1170 and 1171 Introduction to Quantum Mechanics 1 and 2
- PHYS 1172 Electromagnetic Theory
- MATH 1550 Vector Analysis and Applications and 1560 Complex Variables and Applications

Curriculum for a BS in Physics

The following courses are required for a BS in physics:

- PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2 or 0475 and 0476 UHC Introduction to Physics for Science and Engineering 1 and 2. The department recommends the honors sequence.
- PHYS 0219* Basic Lab Physics for Science and Engineering
- PHYS 1150 Mechanics
- PHYS 0160 Intermediate Electricity/Magnetism
- PHYS 0167 Undergraduate Seminar
- PHYS 0368 Wave Motion and Optics
- PHYS 1119 and 1120 Principles of Modern Physics 1 and 2

- PHYS 1151 Computational Methods in Physics
- PHYS 1225* Analog and Digital Electronics
- PHYS 1226 Modern Physics Laboratory
- PHYS 1141 Thermodynamics and Statistical Mechanics
- MATH 0220, 0230, 0240 Analytic Geometry and Calculus 1, 2, and 3
- MATH 0250 Matrix Theory and Differential Equations
- CHEM 0110 and 0120 General Chemistry 1 and 2 or 0710 and 0720 UHC General Chemistry 1 and 2 or CS 0401 and 0445 Introduction to Computer Science and Introduction to Information Structures

**Note: The UHC lab PHYS 0577 Modern Physics Measurements may replace PHYS 0219 Basic Lab Physics for Science and Engineering and 1225 Analog and Digital Electronics.*

Curriculum for an Honors BS in Physics

The following courses are required for an honors BS in physics in addition to the standard requirements for a BS in physics degree:

- PHYS 1170 and 1171 Introduction to Quantum Mechanics 1 and 2
- PHYS 1172 Electromagnetic Theory
- MATH 1550 Vector Analysis and Applications
- MATH 1560 Complex Variables and Applications
- Although not required for the program, PHYS 0475 and 0476 UHC Introduction to Physics for Science and Engineering 1 and 2 and 0577 Modern Physics Measurements are particularly appropriate for honors students.

Curriculum for the BA in Physics and Astronomy

The following courses are required for a BA degree in physics and astronomy:

- PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2 or 0475 and 0476 UHC Introduction to Physics for Science and Engineering 1 and 2
- PHYS 0219 Basic Lab Physics for Science and Engineering
- PHYS 1119 Principles of Modern Physics 1
- PHYS 1120 Principles of Modern Physics 2
- ASTRON 0113 Introduction to Astronomy
- Two upper-level courses from the following list:
  - ASTRON 1120 Stars: Stellar Structure and Evolution
  - ASTRON 1121 Galaxies and Cosmology
  - ASTRON 1263 Techniques of Astronomy
  - GEOL 1701 Geology of the Planets
- MATH 0220, 0230, and 0240 Analytic Geometry and Calculus 1, 2, and 3
- At least one course in history or philosophy of science is also required.

Minor in Physics (16 credits)

Introductory physics sequence:

- PHYS 0174 (4 credits) Basic Physics for Science and Engineering 1
- PHYS 0175 (4 credits) Basic Physics for Science and Engineering 2

Alternatively, students could take the honors version of these courses, namely:

- PHYS 0475 (4 credits) UHC Introduction to Physics for Science and Engineering 1
- PHYS 0476 (4 credits) UHC Introduction to Physics for Science and Engineering 2

Laboratory Experience:

- PHYS 0219 (2 credits) Basic Lab Physics for Science and Engineering
- The requirement of PHYS 0219 would be waived for students who took PHYS 0577 (4 credits) UHC Modern Physics Measurements.

Modern Physics Sequence:

- PHYS 1119 (3 credits) Principles of Modern Physics 1
- PHYS 1120 (3 credits) Principles of Modern Physics 2

Co- and Prerequisites:

The same co- and prerequisites as those for the major will apply to the physics minor. In particular, the introductory physics sequence has a corequisite of Math 0220 and 0230 Analytic Geometry and Calculus 1 and 2. PHYS 0219 Basic Lab Physics for Science and Engineering has the corequisite of PHYS 0175 Basic Physics for Science and Engineering 2 (or 0476 UHC Introduction to Physics for Science and Engineering 2); PHYS 1119 Principles of Modern Physics 1 has the prerequisites of PHYS 0175 Basic Physics for Science and Engineering 2 (or 0476 UHC Introduction to Physics for Science and Engineering 2) and Math 0240 Analytic Geometry and Calculus 3; and PHYS 1120 Principles of Modern Physics 2 has the prerequisite of PHYS 1119 Principles of Modern Physics 1.

POLITICAL SCIENCE

A major in political science is designed to help students understand the complexity of political developments in both the United States and throughout the world. The major also provides students with a broad education that will help them prepare for a wide variety of careers in various levels of government service, law, education, journalism, business, and the nonprofit sector. The department offers many courses that meet foreign culture/international requirements of the core curriculum of the College of Arts and Sciences and of the wide range of certificate programs sponsored by the University Center for International Studies. Majors in political science may also participate in the new undergraduate program in public service sponsored by the Graduate School of Public and International Affairs (GSPIA) and the College of General Studies (CGS).

Requirements for Major

A major consists of a minimum of 24 credits in political science plus 12 credits in a related area. The department offers a wide range of courses in four fields: American government,

comparative government, international relations and law, and political theory.

The core courses in each field provide first- and second-year students with a broad introduction to the substances and methods of each field. The filed courses provide third- and fourth-year students with specific courses in American and foreign political systems, the foreign policies of a wide variety of states, and alternative conceptions of the basis and nature of political life. The combination of core and field courses permits the student to develop an awareness of the breadth and variety of political science as a discipline and a more detailed competence in one of its fields.

Credits should be distributed as follows:

Core Courses

At least two of the following:

- PS 0200 American Political Process
  An introduction to the institutions and political processes in the United Sates. The course surveys the presidency, Congress, and the judicial system as well as political behavior, public opinion, political attitudes, and the party system.
- PS 0300 Comparative Politics
  An introduction to political systems outside the United States. The course surveys a variety of theoretical approaches to the comparison of political systems and an examination of the political processes, institutions, and current political developments in a variety of political systems in all of the major regions of the world.
- PS 0500 World Politics
  An introduction to the study of foreign policy, covering the international political environment in which nation-states and other actors operate, as well as the specific policies adopted by particular states.
- PS 0600 Political Theory and Analysis
  An introduction to the history of Western political ideas, including the thought of Plato, Aristotle, Machiavelli, Locke, Mill, and Marx.

Field Courses

At least 18 credits, including one 1000-level course in each of the four fields of political science.

American Politics

- 1201 Constitution and Civil Liberties
- 1202 American Constitutional Law
- 1203 Judicial Politics
- 1204 Women in Politics
- 1205 Ethnic and Racial Politics
- 1211 Legislative Process
- 1212 American Presidency
- 1213 Law and Politics
- 1230 Interest Group Politics
- 1231 Political Parties and Elections
- 1232 Political Attitudes and Public Opinion
- 1233 Political Psychology
- 1234 Electoral Behavior and Democratic Process
- 1235 Media and Politics
- 1241 Public Administration and Political Systems
- 1242 Intergovernmental Relations
- 1251 Urban Government
- 1252 State Government
- 1261 American Public Policy
- 1262 Health Policy in the United States
- 1263 Governments in the Economy
- 1264 Problems of Public Management
- 1265 Public Policy Implementation
- 1267 Environmental Politics and Policy
- 1281 Seminar in American Politics (honors)

Comparative Politics

- 1301 Theory and Concepts in Comparative Politics
- 1302 Political Development
- 1303 Movement Politics
- 1311 Western European Government and Politics
- 1312 British Government and Politics
- 1313 French Government and Politics
- 1314 German Government and Politics
- 1315 Italian Government and Politics
- 1316 Scandinavian Government and Politics
- 1317 Politics of the European Union
- 1321 Latin American Politics
- 1322 Latin American Political Development
- 1326 The Politics of Revolution
- 1328 Comparative and Development Administration
- 1331 Government and Politics of Southeast Asia
- 1332 Government and Politics of Contemporary China
- 1334 Vietnam War
- 1336 Contemporary China, Politics, Society, and Economy
- 1341 Government and Politics of the USSR and the Russian Federation
- 1343 Comparative Socialist Political Systems
- 1346 Political East Europe
- 1347 (Conflicts in) Contemporary Europe
- 1348 Xenophobia in Modern Europe
- 1349 The Transatlantic Market Place and Global Political Economy
- 1350 Russia, the CIS, and the Expanding European Union
- 1351 Government and Politics of the Middle East
- 1352 Introduction to African Politics
- 1353 African Liberation Movements
- 1361 Comparative Political Party Systems
- 1362 Comparative Urban Government
- 1363 Globalization and Law
- 1370 Special Topics
- 1371 Elites in Modern Society
- 1372 European Environmental Policy Making
- 1373 Welfare State in Comparative Perspective
- 1374 Politics of Global Inequality
- 1375 Religion and Politics
- 1378 Two Centuries of Democratization
- 1379 Is Fascism Back?
- 1381 Comparative Government Seminar

International Relations & Law

- 1501 Theory of International Relations
- 1502 International Law and Problems of World Order
- 1503 International Organization
- 1504 Nationalism
- 1509 Conflict and War Theory

- 1510 Cold War: Soviet Union and the West
- 1511 American Foreign Policy
- 1512 Europe after the Cold War: Cooperation and Conflict
- 1513 Foreign Policies in a Changing World
- 1514 Political Strategy in International Relations
- 1516 Transnational Politics
- 1521 Eastern Europe in World Politics
- 1522 Latin America in World Politics
- 1523 East Asia in World Politics
- 1530 New International Relations of Europe
- 1531 United States National Security
- 1533 Political Violence and Revolution
- 1542 Global Environmental Politics
- 1543 Globalization and International Politics
- 1544 Political Economy of American Trade Policy
- 1551 Cognitive Psychology and International Relations
- 1581 Seminar in International Relations (honors)

Political Theory and Analysis

- 1601 Political Theory: Plato–Machiavelli
- 1602 Political Theory: Machiavelli–Rousseau
- 1603 Contemporary Political Thought
- 1604 European Social Thought and Political Practice
- 1605 Modern Political Ideologies
- 1607 American Political Thought
- 1611 Liberalism and Democracy
- 1612 Marxism
- 1613 Human Nature
- 1614 Theories of Justice
- 1622 Women and Political Theory
- 1623 Psychology and Politics
- 1629 Topics in Political Theory
- 1636 Politics through Film
- 1681 Seminar in Political Theory
- 1701 Field Methods Political Research
- 1702 Analysis of Political Variables
- 1710 Formal Political Analysis
- 1900 Internship
- 1901 Independent Study
- 1902 Directed Reading
- 1903 Directed Research

Related Area

A minimum of 12 credits in such related disciplines as anthropology, economics, history, sociology, or a related concentration in regional studies.

W Requirement

Students must complete one W course in the major.

Foreign Language

None required beyond the requirements of the College of Arts and Sciences. Study of a foreign language is highly recommended for students with an interest in politics outside of the United States and for all those considering graduate work in comparative politics or a career in government agencies concerned with foreign affairs.

Statistics

Not required for majors, but highly recommended for all those interested in graduate education in political science, business, or public policy.

Department Honors Program

The department's honors program is designed for all those who seek a more intellectually challenging program and more individualized contact with faculty. This program is highly recommended for students interested in graduate education in the social sciences and professional schools in law, business, and public affairs. The requirements beyond the normal departmental major include 1) completion of two additional seminars in political science at the 1000 or 2000 level or one seminar and a research project; 2) an overall QPA of 3.25, with a QPA of 3.5 in political science.

Independent Study

Students who have completed the field course may explore a particular subject in greater depth in a tutorial with the appropriate faculty member. Permission of the instructor is required.

Minor

A minor in political science is composed of one core course and four field courses in one of the four fields of political science.

Internships

A wide range of internships related to the study of politics at the local, national, and international levels are available in both the public and private sectors in Pittsburgh, Washington D.C., and other major cities. Students must work closely with a faculty advisor to assure full academic credit.

Study Abroad

Majors in political science receive full academic credit for participation in all study abroad programs. The University of Pittsburgh is a participant in a wide range of programs of foreign study.

Honors Society

Students who have achieved a QPA of 3.0 in political science are encouraged to join Pi Sigma Alpha, the national honors society in political science. This society sponsors many extracurricular activities linked to the study of politics.

For more information about the program in political science, contact:
Professor Robert Donaldson
4J35 Posvar Hall
412-648-7269

PSYCHOLOGY

The psychology major is part of the liberal arts program of CAS. As such, it provides students with the skills needed to succeed in a job and in graduate school, to think critically and communicate effectively about human behavior and related topics. The Department of Psychology also functions from the perspective that psychology is a natural science. The emphasis it places on research is evident in the foundation courses required to declare the psychology major (e.g., statistics, research methods), as well as in the focus on the scientific methods throughout the content of all other psychology courses. To complement their arts and sciences training, the department also encourages students to participate in directed research and/or supervised field placement opportunities. For more information on the psychology department and its programs, please visit www.pitt.edu/~psych or merlin.psych.pitt.edu/psyadvise.htm.

Psychology majors can participate in one of two major options:

General Major in Psychology

All psychology majors are automatically enrolled in the general major track. This track provides students with a broad background in psychology and a firm understanding of the scientific method. The majority of students select this option.

Honors in Psychology

The honors major offers students a challenging and unique opportunity: to conduct their own independent research study under the guidance of a faculty member; additional course and QPA requirements apply. Students interested in pursuing honors in psychology should contact an advisor in the psychology advising office.

General Major Requirements

In addition to the CAS basic skills and general education requirements, psychology majors must complete 29 credits in psychology, four credits in statistics, and 12 credits of corequirements. The distribution of the major requirements is as follows:

Foundation Courses (Three courses that are required to declare the major; students must earn a C or better in all three foundation courses if they wish to graduate with a psychology major.)

- PSY 0010 Introduction to Psychology or PSY 0012 Foundations of Psychology
- STAT 0200 Basic Applied Statistics or STAT 1000 Applied Statistical Methods
- PSY 0035 Research Methods

Core Courses (Four courses: Developmental Psychology plus one course from each of the three pairs of courses)

- PSY 0310 Developmental Psychology
- PSY 0105 Introduction to Social Psychology or PSY 0160 Psychology of Personality
- PSY 0405 Learning and Motivation or 0420 Human Cognition and Learning

Note: *The 400-level courses have required laboratory components.*

- PSY 0505 Introduction to Biopsychology or 0510 Sensation and Perception

1000-level courses (three courses)

Students must take three 1000-level courses, one of which may be PSY 1900 Supervised Field Placement, PSY 1902 Directed Individual Reading, or PSY 1903 Directed Individual Research. For students participating in the honors major, PSY 1973 Honors Directed Research or PSY 1975 Honors Thesis/Majors may be used to fulfill one of the 1000-level course requirements.

Corequirements (four courses)

The psychology department requires that students further develop their scientific skills through certain approved courses in math, biological sciences, social sciences, and philosophy. A list of these approved courses is available in the psychology advising office. The corequirements may be used to fulfill CAS general education requirements, where appropriate, or can be taken as separate courses.

Psychology majors must also follow these rules and requirements:

- Psychology majors must maintain at least a 2.0 QPA average in their departmental courses.
- Although the psychology department permits its majors to elect the S/N grading option for any psychology course, students are reminded that most graduate and professional schools, and many employers, prefer to see standard grades on the transcript.
- Majors must take one of the W courses offered within the department. PSY 0035 Research Methods is offered every term and is a W course.
- In addition to their major requirements, all CAS students are required to complete a related area, minor, or certificate. Students should consult a psychology advisor when deciding which courses they would like to pursue to fulfill this requirement.

RELIGIOUS STUDIES

Religion is one of the creative expressions of the human spirit. As such, it has shaped and, in turn, been shaped by virtually all historical traditions as well as by many other forms of human activity such as the arts, literature, political thinking, and social behavior. The academic study of religion, therefore, should be undertaken through diverse scholarly methodologies, and it should treat experiences in a variety of cultural contexts in different periods. Students who wish to understand the manner in which religion, in its broadest terms, has contributed to the shaping of the human experience are encouraged to undertake a course of study that will expand their methodological skills as well as give

them a firm command of a particular cultural or historical context. Courses in the study of religion tend to emphasize the human search for meaning and value in history; the manner in which particular religious traditions, practices, thoughts, and orientations have evolved over time; and the degree to which religious views have interacted creatively with other systems of thought and other meaningful expressions of human activity. In addition to courses in the Department of Religious Studies, related courses are offered in other departments as well, such as anthropology, classics, history, philosophy, and sociology. For more information on the department and its programs, visit www.pitt.edu/~relgst.

Major Requirements

The religious studies major consists of 27 credits in religious studies courses, at least half of which must be taken at the 1000 level. The required credits are divided between four components:

- At least one course in the theory or method of religious study, such as one of the following:
  - RELGST 0705 Approaches to the Study of Religion
  - RELGST 0710 Sociology of Religion
  - RELGST 0715 Philosophy of Religion
  - RELGST 1610 Myth, Symbol, and Ritual
  - RELGST 1630 Ritual Process
  - RELGST 1650 Approaches to Anti-Semitism
  - RELGST 1710 Perspectives on Religion
  - RELGST 1760 Religion and Rationality
- At least four courses in one area of specialization, three of which must be at the 1000 level. Examples of areas of specialization include religion in America, religion in Asia, Christian studies, Jewish studies, and religion and politics.
- At least two courses in an alternative tradition of a comparative nature, and one additional course complementary to those two, at least one of which must be at the 1000 level.
- A one-term independent study/research project (RELGST 1903 Directed Research—Undergraduate) developed and pursued in consultation with a faculty sponsor. The project must result in a major research paper, which will serve to bring together the principles accentuated in the student's work within the department and will satisfy the CAS departmental W requirement.

Additional rules and requirements of religious studies majors are as follows:

- Majors must earn a grade of C in each departmental course taken. Courses required for the major must be taken on a letter-grade basis.
- Students should check with the departmental advisor for the credit by examination option.
- The required CAS 12-credit related area may encompass study of literature, language, art, or history of a culture the student is seeking to understand or disciplines or processes that are related to religion, such as social change, mythology, symbolism, and literature. Students may use foreign languages as their related area, but those languages must show some relationship to the primary religion or cultural context within the major. Students planning to attend graduate school should know that competence in those languages related to the culture they will be studying is mandatory. The department strongly encourages development of language skills during undergraduate years.

Minor in Religious Studies

This minor will offer students two areas of study, each requiring the completion of five specific courses (15 credits). Students may choose either a minor in Western religious tradition or one in Eastern religious tradition. Interested students should contact the religious studies department for more information.

SLAVIC LANGUAGES AND LITERATURES

The Department of Slavic Languages and Literatures offers majors in Russian and Polish. These majors provide students with the opportunity to study the languages, literatures, and cultures of Russia and Eastern Europe, including Poland, Ukraine, Slovakia, Croatia, and Serbia.

Students in the Department of Slavic Languages and Literatures include those whose primary interest is languages or literature, who wish to enhance their career opportunities in a special way, who have an interest in the politics and culture of Russia and Eastern Europe, and who have a desire to explore their ethnic heritage. Many Russian majors continue their studies in graduate school or go on to careers in law, engineering, business, and government. Students of Polish, Slovak, Serbian, Ukrainian, and Russian find knowledge of those languages valuable in working in local Western Pennsylvania institutions, politics, business, health-related professions, and media because of the large population of those ethnicities in this region, which traces its roots to the various Slavic nations of Eastern Europe. Students are advised to begin language study early to gain as complete a command of the language as possible. For more information on the Department of Slavic Languages and Literatures and its programs, see www.pitt.edu/~slavic.

During the fall and spring terms, the department offers language courses in Russian, Polish, Slovak, and Ukrainian, with Serbian and Croatian available through the Language Acquisition Institute. Students with any prior experience with Russian or Ukrainian (such as from having spent any time in Russia or the former Soviet Union or from having parents who are able to speak or understand any Russian or Ukrainian) are required to consult with the instructor before being admitted to any language course in the department.

Summer term intensive courses in Polish, Hungarian, Slovak, Serbian, Russian, Croatian, Bulgarian, Macedonian, Romanian, and Ukrainian are offered. The Summer Institute, available in June, July, and the first part of August, covers an entire year of study on the first-, second-, and third-year levels. For prospective majors, the institute affords the opportunity to make rapid progress through

the language in order to qualify for advanced courses or study abroad opportunities. Deserving of special mention is the department's program in Slovak language, literature, and culturethe only such program in the United States and one that additionally offers the opportunity for several students each year to study in Slovakia. The summer study of Russian, Polish, and, beginning in 2004, Bulgarian affords the opportunity to study for the first half of the course in Pittsburgh and for the second part in the target country, with excursions to major cities and monuments. Scholarships are available for the summer study of languages.

Russian Major Requirements

The Russian major requires at least 30 credits above the level of RUSS 0040 Intermediate Russian 2 and must include the following:

- RUSS 0400 Advanced Russian 1 and 0410 Advanced Russian 2
- RUSS 0420 Russian Newspapers and Magazines and 0430 Readings in Russian Literature
- RUSS 0850 Early Russian Culture and 0860 Modern Russian Culture
- RUSS 0800 Masterpieces of 19th-Century Russian Literature and 0810 Masterpieces of 20th-Century Russian Literature
- RUSS 1400 Morphology of Modern Russian (optional)
- RUSS 1420 Fourth-year Russian 1
- RUSS 1430 Fourth-year Russian 2
- At least two courses in an approved related area in political science, history, economics, art history, or other Slavic language and literature

Additional courses at the 1000 level in Russian literature are strongly recommended. Prospective majors are encouraged to take RUSS 0800 Masterpieces of 19th-Century Russian Literature and RUSS 0810 Masterpieces of 20th-Century Russian Literature as early as possible as an introduction to Russian literature.

The following rules and requirements apply to Russian majors:

- Advanced placement assessment and credit by examination may be arranged through consent of the instructor and the department chair.
- RUSS 0800 Masterpieces of 19th-Century Russian Literature and RUSS 0810 Masterpieces of 20th-Century Russian Literature are offered regularly as W courses and will satisfy the departmental W course requirement.

For more information, see www.pitt.edu/~slavic/undergraduate.html.

Polish Major Requirements

Students interested in majoring in Polish should check with the department for current requirements for completing the major.

Minor in Slovak Studies

An undergraduate minor in Slovak studies motivates students to continue with their language and culture studies in a meaningful way. This program would be particularly useful for students majoring in anthropology, political science, and history, many of whom focus their work on Slovakia or Central Europe and see Slovak language and culture as a gateway to the study of the area. Several of the graduates with considerable work in Slovak at Pitt have been offered jobs at the Pentagon, international nonprofit and nongovernmental organizations (NGOs), Radio Free Europe, and the U.S. Department of State.

Students who are interested in the minor may tailor their course selections according to the focus of their interest in the Slovak language or in Slovak culture.

The Slovak language option requires the following distribution of courses for a total of 17 credits:

All of the following:

- SLOVAK 0010 Elementary Slovak 1, 4 credits
- SLOVAK 0020 Elementary Slovak 2, 4 credits
- SLOVAK 0030 Intermediate Slovak 3, 3 credits
- SLOVAK 0040 Intermediate Slovak 4, 3 credits
- SLOVAK 0400 Advanced Slovak 1, 3 credits

The Slovak culture option requires the following distribution of courses for a total of 17 credits:

All of the following:

- SLOVAK 0010 Elementary Slovak 1, 4 credits
- SLOVAK 0020 Elementary Slovak 2, 4 credits

Three of the following:

- SLOVAK 1250 Cultural History of Slovakia, 3 credits
- SLOVAK 1260 Survey of Slovak Literature and Culture, 3 credits
- SLOVAK 1770 Czech and Slovak Film, 3 credits
- SLOVAK 1865 The Year Communism Crumbled, 3 credits
- SLOVAK 1270 Slovakia Today, 3 credits
- SLOVAK 0030 Intermediate Slovak 3, 3 credits

SOCIOLOGY

This is an exciting time of dramatic social change, both nationally and internationally. Global processes are integrating the world and creating the "global village." At the same time, old hostilities based on ethnic solidarity are re-emerging and tearing the social fabric of various parts of the world. The U.S. economy is undergoing structural change, which, in turn, is altering the occupational structure; the United States is becoming more multicultural, and the meanings of "community" are shifting. In these changes there are huge benefits for some and heavy costs for others. "Social problems" (e.g., health care availability, poverty, crime, or threats to the environment) are not marginal to societies but integral to them.

Sociologists try to understand these phenomena. For some, this means informing public policy; for others, the social world is simply one of the most interesting things

to study. Sociologists study social organization. For some, this means examining societies—how they are structured, how they work, and how they change. Other sociologists study how small social groups work and how they change. This includes the social networks that people form as part of their social life. Issues of race, class, and gender affect the opportunities and constraints faced by different groups in society. Sociologists study how people belong to families, groups, and organizations—how people develop identities and how their social organizations become real. Sociologists also focus on broad patterns of social organization socialization, education, welfare, health care, etc. In short, the social world is endlessly fascinating.

For more information on the sociology major, the sociology minor, and the Department of Sociology, see www.pitt.edu/~socdept.

Major Requirements

A total of 27 credits in sociology and four credits in statistics, distributed as follows, are required for completion of the major:

- SOC 0010 Introduction to Sociology or 0005 Societies or 0002 Sociology of Everyday Life
- STAT 0200 Basic Applied Statistics or STAT 1000 Applied Statistical Methods
- SOC 0230 Social Research Methods
- SOC 0150 Social Theory
- A research practicum, designed to provide a focused research experience for students. Research practicum topics include the following:
  - SOC 1231 Interorganizational Networks
  - SOC 1435 Social Change in the U.S.
  - SOC 1438 Demography
  - SOC 1277 The Pittsburgh Area Study
- At least 6 credits from advanced-level courses (1000 level). (Internships, independent study, and courses taken for the research practicum do not count toward these 6 credits.)
- Nine additional elective credits must be taken to complete the major.

In addition, sociology majors must adhere to these rules and requirements:

- A minimum 2.00 cumulative QPA in all departmental courses is required to graduate.
- Sociology majors may take no more than 6 of their 27 credits under the S/N option. After declaring the sociology major, students may not take SOC 0150 Social Theory, SOC 0230 Social Research Methods, or STAT 0200 Basic Applied Statistics on the S/N basis.
- Sociology majors must complete the 12-credit required CAS related area. Acceptable related areas include anthropology, Africana studies, computer science, economics, history, mathematics, philosophy, political science, psychology, or religious studies. In special cases, the sociology advisor may approve some other field to satisfy this requirement, such as the study of a foreign area or language.

Minor Requirements

A minor in sociology requires the following distribution of courses for a total of 15 credits:

- SOC 0002 Sociology of Everyday Life or 0005 Societies or 0010 Introduction to Sociology
- SOC 0230 Social Research Methods
- A sociological theory course from a list of approved courses, currently including 0150 Social Theory and 1105 Feminist Social Theory
- An elective in sociology
- One elective upper-level sociology course (1000–2000)

STATISTICS

The field of statistics is concerned with ways of understanding variability in measurements. It is the science and art of making informed decisions in the face of uncertainty. Statistical reasoning is fundamental to research in many scientific fields. For example, probabilistic models of learning are used in education and psychology, and time series and regression models guide research in engineering, chemistry, economics, biology, and medicine. Recent high-profile court cases have shown the importance of the use of probability and statistics in law, especially in the fields of forensic medicine and DNA fingerprinting. Statisticians have also been instrumental in developing methods by which observations are obtained in many disciplines. Examples include randomized clinical trials in medicine and complex sampling surveys in social and political science. Probability and statistics are basic to the actuarial sciences. When lists are compiled of the most important scientific theories and discoveries of the last century, a substantial number of these developments are seen to be inherently statistical in nature.

The Department of Statistics offers course work leading to a Bachelor of Science degree in statistics, a minor in applied statistics, and a combined five-year bachelor and master's degree in statistics. The department also offers a wide array of introductory service courses for general undergraduate audiences that deal with statistical methods in applications (and which require only high school mathematics). A joint major in economics and statistics is currently being developed. Students interested in this program should check with the department to determine if it has been approved. Students considering majoring in statistics should consult with a department advisor early in their studies, preferably during their freshman year. For more information on the major, other programs, and the Department of Statistics, visit www.stat.pitt.edu.

Requirements for a BS in Statistics

The statistics major requires a minimum of 50 credits, including the following required courses:

1. STAT 1000* Applied Statistical Methods
2. STAT 1221 Applied Regression and 1223 Applied Regression Writing Component

3. STAT 1151 Introduction to Probability and 1152 Introduction to Mathematical Statistics
4. Two introductory applied statistics courses from the following list:
   - STAT 1201 Applied Nonparametric Statistics
   - STAT 1211 Applied Categorical Data Analysis
   - STAT 1231 Applied Experimental Design
   - STAT 1241 Applied Sampling
   - STAT 1251 Statistical Quality Control
   - STAT 1291–1294 Topics in Applied Statistics 1, 2, 3, and 4
5. One intermediate applied statistics course from the following list:
   - STAT 1301 Statistical Packages
   - STAT 1311 Applied Multivariate Analysis
   - STAT 1321 Applied Time Series
6. STAT 1631 Intermediate Probability and 1632 Intermediate Mathematical Statistics
7. One statistics course from the following list:
   - STAT 1651 Bayesian Statistics
   - STAT 1661 Linear Regression
   - STAT 1662 Nonlinear Regression
   - STAT 1731 Stochastic Processes
   - STAT 1741 Applied Probability Theory
   - STAT 1761 Game Theory
   - STAT 1781 Combinatorics
   - STAT 1791–1794 Topics in Probability and Statistics 1, 2, 3, and 4
8. One elective from 4, 5, or 7 above
9. MATH 0220, 0230, and 0240 Analytic Geometry and Calculus 1, 2, and 3
10. Either MATH 0280 Introduction to Matrices and Linear Algebra or MATH 1180 Linear Algebra 1

**Note:* *With approval of their major advisor, students may substitute STAT 0200 Basic Applied Statistics with a minimum grade of B- for STAT 1000 Applied Statistical Methods. Statistics and business dual majors may, with approval, substitute STAT 1100 Statistics and Probability for Business Management for STAT 1000 Applied Statistical Methods.*

Because professional statisticians collaborate with other scientists, students are encouraged to take elective courses from the behavioral, natural, physical, and social sciences.

Statistics majors must adhere to the following rules and requirements as well:

- Students must earn at least a C grade in each course required for the major.
- Students may not take required courses on the S/N option.
- Since 15 credits of mathematics is one of the corequisites for the major, students who complete the major automatically fulfill the CAS 12-credit related area requirement.
- Courses in technical writing and public speaking are recommended.
- Students planning to continue their studies in a graduate program are strongly encouraged to take MATH 0413 Introduction to Theoretical Mathematics, MATH 0420 Introductory Theory 1 Variable Calculus, MATH 1180 Linear Algebra 1, and as many additional mathematics courses in advanced calculus, numerical analysis, and computer sciences as possible.

In order to qualify for departmental honors at graduation, students must

- Have a QPA of at least 3.50 in all mathematics and statistics courses taken and a QPA of at least 3.70 in all 1000-level courses taken within the department and
- Complete all other requirements for the statistics major.

Requirements for a Minor in Applied Statistics

Professionals in many fields use statistical procedures regularly. Decisions based on numerical information or data, if the data are collected and analyzed properly, are typically better decisions. The minor in applied statistics was designed to give students additional statistical tools and a better understanding of statistical reasoning.

The minor in applied statistics requires 16 credits, consisting of the following courses:

1. STAT 1000 Applied Statistical Methods. Acceptable substitutes include STAT 1100 Statistics and Probability for Business Management, ENGR 0020 Probability and Statistics for Engineers 1, and STAT 0200 Basic Applied Statistics.
2. STAT 1221 Applied Regression
3. Three additional courses from STAT 1200 through 1700, excluding STAT 1223 Applied Regression Writing Component.

Requirements for a Combined Five-Year Bachelor and Master's Degree in Statistics

Admission to the program requires the approval of both the undergraduate and graduate directors. The minimum requirements for admission are:

1. Two letters of recommendation,
2. minimum high school GPA of 3.25 or top 10 percent of class, and
3. an SAT score of at least 1270 with a math score of at least 650.

Requirements for a Combined BS and MA in Statistics

1. Introductory mathematics courses: MATH 0220, 0230, 0240 Analytic Geometry and Calculus 1, 2, and 3; and MATH 0280 Introduction to Matrices and Linear Algebra or MATH 1180 Linear Algebra 1
2. STAT 1000 Applied Statistical Methods, STAT 1221 Applied Regression, and STAT 1223 Applied Regression Writing Component, where STAT 1223 is a W (writing) course
3. Three introductory applied statistics courses from the following list: STAT 1201 Applied Nonparametric Statistics, 1211 Applied Categorical Data Analysis, 1231 Applied Experimental Design, 1241 Applied Sampling, 1251 Statistical Quality Control, 1291–1294 Topics in Applied Statistics 1, 2, 3, and 4
4. One intermediate applied statistics course from the following list: STAT 1301 Statistical Packages, 1311 Applied Multivariate Analysis, 1321 Applied Time Series
5. STAT 1151 Introduction to Probability and STAT 1152 Introduction to Mathematical Statistics

6. STAT 1631 Intermediate Probability and STAT 1632 Intermediate Mathematical Statistics
7. STAT 2131 and 2132 Applied Statistical Methods 1 and 2
8. STAT 2381 Supervised Statistical Consulting
9. Electives in statistics: Three additional courses, at least two of which must be graduate-level courses. STAT 2711 and 2712 are excluded, and courses at the 3000 level must be approved by the student's advisor
10. One graduate-level course from outside of the department, chosen in consultation with the graduate advisor
11. Master's pass on Preliminary Examination

Requirements for a Combined BS and MS in Statistics

Requirements one through 11 as above, except that requirement nine is reduced to one undergraduate or graduate course. In addition, the student must write and successfully defend a master's thesis.

- Grade requirement: Students in the program must earn at least a B grade in each required course as well as maintain a 3.25 QPA.

Typical Schedule

First Year: MATH 0220 Analytic Geometry and Calculus 1, STAT 1000 Applied Statistical Methods, MATH 0230 Analytic Geometry and Calculus 2, STAT 1221 Applied Regression, STAT 1223 Applied Regression Writing Component

Second Year: MATH 0240 Analytic Geometry and Calculus 3, STAT 1200-level course, MATH 0280 Introduction to Matrices and Linear Algebra, STAT 1200-level course

Third Year: STAT 1151 Introduction to Probability, STAT 1200-level course, STAT 1152 Introduction to Mathematical Statistics, STAT 1300-level course

Fourth Year: STAT 1631 Intermediate Probability, STAT 2131 Applied Statistical Methods 1, STAT 1632 Intermediate Mathematical Statistics, STAT 2132 Applied Statistical Methods 2, STAT 2000-level course

Fifth Year: Take Comprehensive Exam, STAT 2381 Supervised Statistical Consulting, two STAT electives or master's thesis, one outside graduate-level course

Comparison of Programs

Separately, the Bachelor of Science in statistics requires 50 credits, and the master's of applied statistics requires 33 credits, of which 21 must be graduate level. The combined program requires 69 credits, of which 18 must be graduate level.

STUDIO ARTS

The practice of art is among the oldest and most fundamental forms of human expression. The Department of Studio Arts provides the opportunity for students to explore the visual arts through foundation courses and through upper-level courses in painting, sculpture, drawing, printmaking, and graphic design. Studio activities are designed to intensify students' visual perception of the formal and expressive means of art, to develop understanding of a variety of technical processes, and to encourage insight into the significance of making art today. Course offerings of the department address the following goals:

- to provide a degree program for art majors who desire a liberal education and want to prepare for graduate art school or pursue a career in an art-related field;
- to provide a related area in studio arts for majors in other departments by taking the four foundation courses or by completing 12 credits in a specified studio area;
- to facilitate development of art-making skills and concepts through the foundation courses for all undergraduate students, while satisfying the CAS creative expression requirement; and
- to provide a 15-credit minor in studio arts.

The Department of Studio Arts sponsors an annual student exhibition and a bi-annual faculty exhibition in the University of Pittsburgh Art Gallery. The University's Frick Fine Arts Library is one of the finest available. Also in close proximity is The Carnegie, with its museum and library providing access for research and study. For more information on the major, the minor, and the Department of Studio Arts, see www.pitt.edu/~studio.

Major Requirements

Majors must complete a minimum of 36 credits in studio arts (SA) courses and 12 credits in history of art and architecture (HA&A) courses, distributed as follows:

- Level-one courses (required for all majors)
  - SA 0110 Foundation Design
  - SA 0120 Foundation Painting
  - SA 0130 Foundation Drawing
  - SA 0140 Foundation Sculpture
- Level-two courses (required for all majors)
  - SA 1230 Drawing
  - SA 1240 Sculpture
  - SA 1250 Painting
  - SA 1260 Print–Etching or Print–Lithography or SA 1270 Digital Imaging
- Levels three and four or 1360 Printmaking–Lithography (electives for majors)
  - Twelve credits selected from SA 1330–1900 (Check the department Web site for the titles of courses in these levels.)
  - Twelve credits in HA&A courses, to include HA&A 0010 Introduction to Art and HA&A 0030 Introduction to Modern Art

Studio arts majors must also adhere to these rules and requirements:

- Students must attain at least a 2.00 QPA in the major.
- Students may take none of their departmental courses on the S/N basis. Credit by exam is generally not available.
- Students should take one of the HA&A courses required for the major as a W course.
- Students who earn a 3.50 QPA in the major and an overall 3.25 QPA receive departmental honors.
- Corequirements in HA&A automatically fulfill the CAS required 12-credit related area.
- Seniors are expected to exhibit their work in the Annual Student Exhibition at the University of Pittsburgh Art Gallery.
- In addition to required courses, focus in a particular medium is possible through directed study. Internships are also available in art-related fields.
- Majors may take special workshops and courses when offered, but only if they have fulfilled the prerequisites, or by departmental permission. The department recommends that a student take no more than two studio arts courses in one term.

Courses for Non-Studio Arts Majors

All level-one core courses are open to non-art majors. Non-art majors may take level-two courses but must complete the prerequisites for the specific courses. A related area in studio arts requires 12 credits. A student may elect one of the following options: 12 credits in level-one courses or 12 credits within a specific field. Nonmajors may take special workshops and advanced courses when offered, but only if they have fulfilled the prerequisites, or by departmental permission.

Minor Requirements

The studio arts minor requires the completion of 15 credits, including the following:

- Four foundation courses
  - SA 0110 Foundation Design
  - SA 0120 Foundation Painting
  - SA 0130 Foundation Drawing
  - SA 0140 Foundation Sculpture
- One upper-level course selected from the following list:
  - SA 1230 Drawing
  - SA 1240 Sculpture
  - SA 1250 Painting
  - SA 1260 Printmaking–Etching
  - SA 1270 Digital Imaging
  - SA 1360 Printmaking–Lithography
  - SA 1420 Color
  - SA 1430 Perspective Drawing
  - SA 1450 Painting—Figure and Portrait
  - SA 1455 Painting—Landscape
  - SA 1470 Graphic Design

The department recommends completing 0110 Foundation Design and 0130 Foundation Drawing before enrolling in 0120 Foundation Painting.

THEATRE ARTS

The course of study in theatre arts is based on the conviction that "if you know a thing theoretically but don't know it practically, then you don't really know its whole theory; and if you know it practically but don't know it theoretically, then you don't really know its whole practice" (C.E. Montague). Accordingly, the theatre arts major is required to participate in University theater productions, as well as to complete the required courses in theatre arts. Academic credit is awarded for practical theater work done under the supervision of faculty members. Theater history and criticism courses will introduce students to the study of drama as a separate artistic mode (different in form and function from literature) and to the theater as an institution whose development has been influenced by social and cultural forces. The department stresses that it is not a professional training school; it does, however, provide experiences in many areas of theatrical production and is good preparation for graduate, professional, or apprenticeship training. Department-affiliated activities include three to four mainstage shows directed by faculty members or special guest directors each year, several workshops directed by advanced graduate students, and numerous labs directed by graduate or advanced undergraduate students. Auditions for all productions are open to anyone interested in theater. At present, career opportunities in educational theater are expanding in the areas of technical theater and design and in creative dramatics and children's theater. It is very difficult, by contrast, to find a job as an actor. Most available positions require academic work beyond the BA or equivalent experience. For more information on the major and the Department of Theatre Arts, see www.pitt.edu/~play.

Major Requirements

The major consists of 46–50 credits, distributed as follows:

- Core courses
  - THEA 0810 Introduction to Dramatic Art
  - THEA 0840 Introduction to Theatre Design or 1220 Design for Theatrical Production
  - THEA 1102 Acting 1
  - THEA 1225 Stagecraft 1 or 0842 Introduction to Stagecraft
  - THEA 1240 Costume Crafts
  - THEA 1341 World Theatre 500 BCE–1640
  - THEA 1342 World Theatre 1640–1890
  - THEA 1343 World Theatre 1890–1970
  - THEA 1360 Theatre Criticism, W course
- Theatrical production courses
  - Four credits of THEA 0880 Theatrical Production, 1 credit per term. These 4 credits must be distributed among four of the following five areas: scenery/props, costume, lighting, sound, and stage management
- Additional performance credits
  - Three additional performance credits are required, either THEA 1103 Acting 2 or 1110 Directing 1
- Electives
  - Twelve credits of electives are required and may be selected from among performance classes, history, literature, criticism, or technical theatre and design

In addition, theatre arts majors should adhere to these rules and requirements:

- Students are encouraged to declare this major early and register with the departmental advisor.
- Majors must maintain at least a 2.00 QPA in all theatre arts courses.
- Students must check with the program advisor to determine the appropriateness of using the S/N grade option in departmental courses.
- Majors must complete a CAS required 12-credit related area. Any area that corresponds with the student's interests is appropriate, but studio arts is strongly suggested. Also recommended are anthropology, Africana studies, classics, English, history of art and architecture, foreign language, history, music, philosophy, psychology, sociology, and rhetoric and communication.

Minor in Theatre Arts

The theatre arts minor affords a special opportunity for students interested in areas other than theatre studies that require a high level of interpersonal skills. Students preparing for careers in law, advertising, business, or even medicine, to name just a few, would greatly benefit from this minor.

Alternately, the proposed tracks are intended to guide a student who has a substantial interest in theatre studies but is unable to undertake the full major course of study. All tracks are underpinned by theatre arts core courses (0800 and 0810) that, respectively, introduce the student to the variety, breadth, and history of theatre practice and provide a set of intellectual skills for the analysis of plays in performance.

Students electing the performance track will then proceed to undertake a range of courses imparting basic and advanced techniques in live performance, including vocal and movement skills, characterization, and stage direction. Students electing the design track will learn drafting and design skills in scenic, costume, lighting, and/or sound design. Students electing the theatre history, literature, and criticism track can pursue specialized studies in various periods or themes, employing methodologies appropriate for the study of performance and performance history.

Required for All Tracks

- THEA 0800 Introduction to Theatre Arts
- THEA 0810 Introduction to Dramatic Art

Performance Track

- THEA 0830 Introduction to Performance
- Two electives from among THEA 1100–1111 (performance course sequence)
  - THEA 1100 Voice and Movement 1
  - THEA 1101 Voice and Movement 2
  - THEA 1102 Acting 1
  - THEA 1103 Acting 2
  - THEA 1104 Acting 3
  - THEA 1105 Acting 4
  - THEA 1106 History of Performance Style
  - THEA 1107 Instructional Performance Company
  - THEA 1109 Performance Lab
  - THEA 1110 Directing 1
  - THEA 1111 Directing 2

Design Track

- THEA 0804 Introduction to Theatre Design
- Two electives from among THEA 1225–1246 (design course sequence)
  - THEA 1225 Stagecraft 1
  - THEA 1226 Stagecraft 2
  - THEA 1227 Scene Painting
  - THEA 1229 Theatre Business Management
  - THEA 1230 Stage Lighting 1
  - THEA 1231 Stage Lighting 2
  - THEA 1235 Scene Design 1
  - THEA 1236 Scene Design 2
  - THEA 1237 High School Workshop Scene Design
  - THEA 1240 Costume Crafts
  - THEA 1241 History of Costume
  - THEA 1242 Pattern Making
  - THEA 1245 Stage Makeup
  - THEA 1246 Costume Design 1

Theatre History, Literature, and Criticism Track

- Three electives from among THEA 1340–1361 (history, literature and criticism sequence)
  - THEA 1340 Native American Theatre
  - THEA 1341 History of Theatre 1
  - THEA 1342 History of Theatre 2
  - THEA 1350 American Theatre
  - THEA 1351 Greek and Roman Theatre
  - THEA 1352 Medieval Theatre
  - THEA 1353 Continental Renaissance Theatre
  - THEA 1354 English Theatre 1558–1642
  - THEA 1355 Restoration Theatre
  - THEA 1356 18th-Century Drama
  - THEA 1357 19th-Century Drama
  - THEA 1358 Modern Theatre to WWII
  - THEA 1359 Contemporary Theatre
  - THEA 1360 Theatre Criticism
  - THEA 1361 Forms of Japanese Theatre

URBAN STUDIES

While urban studies is not a department, it is an administrative unit offering a major in urban studies for students who have an interest in unraveling the complexities of the urban world. The major is interdisciplinary, meaning that students learn about cities as historical, social, cultural, economic, and political phenomenons. The major is "real world" in the sense that students apply what they learn to the world beyond the classroom. Finally, the major is career oriented in that, after graduation, students attempt to find roles for themselves in the urban environment. To accomplish all of these goals, the urban studies curriculum integrates "knowing" with "doing." The major combines courses offered by the program with courses offered through

other social science departments. For more information, see www.pitt.edu/~cities.

Major Requirements

The urban studies major requires 33 credits, distributed as follows:

- URBNST 0080 Introduction to Urban Studies
- Eighteen upper-level credits approved by the department, to be chosen in consultation with the urban studies coordinator, from one of four possible areas:
  - urban planning
  - urban management
  - community organization
  - comparative urbanism

Recommended course sequencing for each area is available in the Urban Studies Program office.

- URBNST 1300 Urban Studies Skills Seminar
- URBNST 1500 Urban Studies Research Seminar
- URBNST 1900 Urban Studies Field Placement
- Either STAT 0200 Basic Applied Statistics or 1000 Applied Statistical Methods is strongly recommended but not required.
- URBNST 1200 Urban Studies Field Research Seminar is not required but fills the elective requirement. This seminar is offered only in the summer.
- URBNST 1700 International Urbanism Seminar is required for comparative urbanism students.

Urban studies majors must also follow these rules and requirements:

- Students are encouraged to take URBNST 0080 Introduction to Urban Studies as early as possible, ideally in the fall or spring of the freshman year, and to develop a broad background in the social sciences among lower-level social science courses such as the following:
  - ANTH 0780 Introduction to Cultural Anthropology
  - AFRCNA 0031 Introduction to Africana Studies
  - ECON 0110 Introduction to Macroeconomic Theory
  - HIST 0601 United States 1865–Present
  - PS 0200 American Political Process
  - SOC 0010 Introduction to Sociology
- Students must have at least a 2.00 QPA in all courses to be applied to the major.
- Students may take as many courses on the S/N basis as they wish.
- URBNST 1300 Urban Studies Skills Seminar, which is required for the major, satisfies the W course requirement.
- Students are required by CAS to complete a 12-credit related area. Particularly appropriate areas are sociology, economics, political science, anthropology, Africana studies, and history, although students may consult with their advisor about other possibilities.

NONDEPARTMENTAL CAS MAJORS

CAS offers several major options that are not administered by a specific academic department within CAS: the CAS/business dual major, the interdisciplinary studies major, and the politics and philosophy major. Descriptions of these majors follow:

CAS/Business Dual Major

The CAS/business dual major is offered jointly by the College of Arts and Sciences (CAS) and the College of Business Administration (CBA). To satisfy the requirements, students must combine the business major with any CAS major. The CAS major will be listed first on the transcript as the degree-determining major (BS or BA), and the business major will be listed second. Students will be required to fulfill all CAS curriculum requirements. Students are admitted by a faculty committee that considers the cumulative QPA, specific courses taken and grades earned, SAT scores, and other relevant credentials. Students who have completed at least one full year of course work are eligible to apply to the program. Students interested in the program should seek assistance from their CAS advisor regarding the application process. For more information about the program, see www.cba.pitt.edu/advising/advising.htm.

Major Requirements

To graduate with a CAS/business dual major, students must complete the following:

- Four dual major prerequisites:
  - ECON 0100 Introduction to Microeconomic Theory
  - ECON 0110 Introduction to Macroeconomic Theory
  - MATH 0120 Business Calculus or 0220 Analytic Geometry and Calculus 1
  - STAT 1100 Statistics and Probability for Business Management

Note: *Competency in Microsoft Excel (spreadsheet software) is required.*

- Twelve required business courses:
  - BUSACC 0030 Financial Accounting
  - BUSACC 0040 Managerial Accounting
  - BUSQOM 0050 Quantitative Methods
  - BUSENV 0060 Ethics and the Business Environment*
  - BUSECN 1010 Business Economics
  - BUSORG 1020 Organizational Behavior
  - BUSFIN 1030 Introduction to Finance*
  - BUSMKT 1040 Introduction to Marketing*
  - BUSHRM 1050 Human Resources Management
  - BUSMIS 1060 Information Systems Business Process Design*
  - BUSQOM 1070 Operations Management*
  - BUSSPP 1080 Strategic Management*

Note: *Courses noted with an asterisk (*) are considered non-CAS credits. All other courses are counted toward graduation as CAS credits. CAS students may include only 18 non-CAS credits in the 120 credits required for graduation.*

- Two dual major program electives selected from a list

of courses in the CAS/business dual major student handbook.

All of the above listed courses must be completed with an average QPA of 2.00. All courses for the business major must be taken on a letter-grade basis. However, the two dual business electives may be taken on the S/N option. Students who complete the requirements of the CAS/business dual major are not required to complete a minor or related area.

Interdisciplinary Studies Major

The interdisciplinary studies option is intended for students who wish to design their own major. This major allows students to be flexible and creative in planning a program to match their individual interests and career goals. Completing this major requires sound thought, planning, and extra effort. Students selecting this option must secure the sponsorship of two full-time CAS faculty advisors. Students will formulate a proposal for their major, including a course prospectus (classes chosen) and an essay stating rationale for their desired program of study. They will work on their proposal with their faculty advisors, who must approve the proposal before the interdisciplinary studies faculty committee can approve it.

Major Requirements

A student intending to complete an interdisciplinary studies major must submit a proposal to his/her faculty advisors before the end of the junior year. The faculty committee must approve the proposal before the student can officially declare interdisciplinary studies as a major.

- All CAS degree requirements must be completed (120 credits, 2.0 overall QPA and major QPA, skills and general education requirements).
- The interdisciplinary studies proposal must consist of a minimum of 42 credits, 21 of which must be earned from courses numbered 1000 level or above. Courses are chosen from at least two different departments and arranged in one, two, or three clusters or thematic groupings. Each cluster must contain a minimum of 12 credits.
- A maximum of 6 credits of internship or independent study may be included. A maximum of 6 credits of non-CAS courses (i.e. BUS, BUSERV, ADMJ, ADMPS, IL, PSYED, etc.) may be used. There can be no more than 9 credits of internship/independent study and non-CAS credits combined.
- A W course approved by the faculty advisors must be completed as part of the major.

A QPA of at least 2.00 must be maintained for all interdisciplinary studies course work. Students may achieve honors in interdisciplinary studies by earning a minimum QPA of 3.50 in the courses for the major and approval of a final paper or thesis.

Politics and Philosophy

Politics and philosophy (P&P), a major comprised of elements from the political science, philosophy, and economics departments and unified under the auspices of the University Honors College (UHC), is designed to provide students with an interdisciplinary training in the conceptual, empirical, and normative foundations of various fields of public policy. It enhances students' understanding of the moral and political complexities of public life, and it gives both empirical and philosophical preparation to students interested in pursuing careers in social and public affairs. By combining course work from different disciplines, the program's scope is broad, yet the structure of the curriculum also requires depth. In addition, essential communication skills in writing and presentation are sharpened in the required seminars. Politics and philosophy is a rigorous and challenging but rewarding major. An academic career is certainly a possible pursuit; the major is also excellent preparation beneficial for careers in the law professions, government, community organizations, and social action groups. For more information on the program, see www.honorscollege.pitt.edu/academics/pnp.html.

Major Requirements

The P&P major requires completion of a minimum of 51 credits, distributed as follows:

- Political science courses (18 credits)

Two introductory-level and four advanced-level courses are required. Whenever possible, at least one of the lower-level courses should be a UHC offering. The four upper-level courses are dependent on each student's interest and will be decided upon in consultation with the advisor.

- Philosophy courses (18 credits)

Two introductory-level and four advanced-level courses are required. PHIL 0500 Introduction to Logic is highly recommended as one of the lower-level courses for students preparing themselves for a career in law. The four upper-level courses are dependent on each student's interest and will be decided upon in consultation with the advisor.

- Economics (9 credits)

UHC ECON 0120 Introductory Economic Theory is recommended as the introductory economics course. In lieu of this course, students may also choose to take ECON 0100 Introductory Microeconomic Theory and ECON 0110 Introductory Macroeconomic Theory as introductory courses. The remaining economics course(s) will be decided upon in consultation with the advisor.

- W (Writing) Seminar Courses (6–7 credits)

UHC PHIL 0850 Philosophy and Liberal Democracy, 3 credits, and UHC PS 0650 Politics and Liberal Democracy, 4 credits, are the recommended W courses for the major. PHIL 0850 is offered every fall term; PS 0650 is offered every other spring term. They are not sequential; students may take them in either order. In order to take these courses, students must have a 3.25 QPA, must have fulfilled the general writing requirement, and should have completed at least one course in political science and philosophy. Other W courses may be used to fulfill the political science W seminar requirement with approval from the advisor.

• Capstone (variable credits)

In consultation with the advisor, students may opt for one of the following: completion of the Bachelor of Philosophy thesis through the UHC; participation in a graduate-level seminar (with permission of the instructor); or completion of a directed research project, independent study, or internship.

Additional Requirements of the Politics and Philosophy Major

- Students are expected to achieve and maintain a 3.25 QPA in order to take the required W seminar courses. In addition, the same level of performance should be maintained in order to complete the major because many of the electives are very likely to be UHC offerings.
- Credit by examination is not available.
- The required W seminar courses fulfill the W course requirement, and students often complete more than the minimum two W courses required by CAS.
- Because the very nature of the program is multidisciplinary, no related area is required. It is, however, not uncommon for P&P majors to combine an area studies certificate or even a second major with the program.
- No requirement beyond that of CAS is required in a foreign language; however, students are always encouraged to pursue language studies, especially those who are interested in international studies or a specific area studies program at the graduate level.

College of Arts and Sciences Course Offerings

These are the courses offered by the College of Arts and Sciences:

AFRICANA STUDIES

AFRCNA	0010	African American Health Issues
AFRCNA	0011	Introduction to African American Family
AFRCNA	0012	West African Dance
AFRCNA	0015	Introduction to African American Politics
AFRCNA	0016	Introduction to African American Theater
AFRCNA	0017	Introduction to African American Poetry
AFRCNA	0018	History of Africa before 1800
AFRCNA	0020	The African American Experience in Sports
AFRCNA	0022	Introduction to African Literature
AFRCNA	0023	Swahili 1
AFRCNA	0024	Swahili 2
AFRCNA	0025	Yoruba 1
AFRCNA	0226	Yoruba 2
AFRCNA	0027	Introduction to Africa
AFRCNA	0028	Afro-Latin America
AFRCNA	0029	Afro-American History 1
AFRCNA	0030	Afro-American History 2
AFRCNA	0031	Introduction to Africana Studies
AFRCNA	0032	Yoruba 3
AFRCNA	0033	Yoruba 4
AFRCNA	0034	The Psychological Experience of African American Females
AFRCNA	0035	Antebellum Black Women's History
AFRCNA	0036	20th-Century African American Women's History
AFRCNA	0039	History of Jazz
AFRCNA	0042	Africana Urban Woman
AFRCNA	0043	Contemporary African American Drama 1
AFRCNA	0044	Social History of African Americans in Pittsburgh
AFRCNA	0050	Introduction to African American Literature
AFRCNA	0052	African American Dance
AFRCNA	0054	Man/Woman in Literature
AFRCNA	0083	Concepts in African American Theater
AFRCNA	0084	Race, Class, and Ethnicity: The Caribbean Experience
AFRCNA	0085	Caribbean History
AFRCNA	0086	African Civilization and Culture
AFRCNA	0087	Black Consciousness
AFRCNA	0088	Contemporary Africana Films
AFRCNA	1002	Learning Paradigms for African American Child Development
AFRCNA	1003	Female Playwrights before 1959
AFRCNA	1004	Africana World Literature
AFRCNA	1005	Blues Poetics and Wilsonian Drama
AFRCNA	1006	World Literature in English
AFRCNA	1008	African American Folk Culture
AFRCNA	1009	Women of Africa and the African Diaspora
AFRCNA	1010	Cultures of Africa
AFRCNA	1011	The Rise of the Modern Pan-Africanist Movement
AFRCNA	1012	Early 20th-Century Black Social Movement
AFRCNA	1016	African American Women Writers
AFRCNA	1020	African American Literary Criticism
AFRCNA	1021	History of the African Diaspora
AFRCNA	1022	Sex and Racism
AFRCNA	1023	Personal Growth through Psychodrama
AFRCNA	1030	African Politics
AFRCNA	1031	African Liberation Movements
AFRCNA	1033	African Americans and Mass Media
AFRCNA	1034	Music in Africa
AFRCNA	1035	Afro-American Music in the United States
AFRCNA	1036	Black Literature
AFRCNA	1037	19th-Century African American History
AFRCNA	1038	History of Black Pittsburgh
AFRCNA	1039	History of Caribbean Slavery
AFRCNA	1040	African Literature and Society
AFRCNA	1041	Special Topics in Caribbean Literature
AFRCNA	1043	Contemporary African American Drama 2
AFRCNA	1044	The African Novel
AFRCNA	1045	African American Rhetoric
AFRCNA	1046	African Poetry

AFRCNA	1047	Francophone Africana Literature
AFRCNA	1049	Contemporary Caribbean Literature
AFRCNA	1050	Contemporary African American Writing
AFRCNA	1052	African American Dance 2
AFRCNA	1053	Comparative Dance Expression
AFRCNA	1054	Africana Dance Workshop: Choreography
AFRCNA	1055	Afro-Caribbean Dance
AFRCNA	1056	History of Africa Since 1800
AFRCNA	1061	Political Economy of Africa
AFRCNA	1068	Africana Senior Research Seminar
AFRCNA	1083	Special Topics in African American History
AFRCNA	1900	Internship

ANTHROPOLOGY

ANTH	0501	Archaeology: An Overview
ANTH	0536	Mesoamerica before Cortez
ANTH	0538	The Archaeologist Looks at Death
ANTH	0582	Introduction to Archaeology
ANTH	0601	Physical Anthropology: An Overview
ANTH	0620	Biocultural Anthropology
ANTH	0669	Sex and Evolution
ANTH	0680	Introduction to Physical Anthropology
ANTH	0701	Cultural Anthropology: An Overview
ANTH	0710	Special Topics in Cultural Anthropology
ANTH	0715	Anthropology of Latin America
ANTH	0720	Folklore & Cultural Diversity
ANTH	0768	Human Sexuality in Cross-Cultural Perspective
ANTH	0780	Introduction to Cultural Anthropology
ANTH	1083	Japanese Culture
ANTH	1440	Language and Prehistory in Mesoamerica
ANTH	1443	American Indian Languages
ANTH	1444	Gypsy Language and Culture
ANTH	1447	Language, Culture, and Society
ANTH	1448	Aztec Language and Culture
ANTH	1466	Topics in Anthropological Linguistics
ANTH	1520	Sedimentology and Stratigraphy
ANTH	1521	Geoarcheology
ANTH	1524	Chinese Archaeology
ANTH	1525	Eastern North American Archaeology
ANTH	1526	Western North American Archaeology
ANTH	1528	South American Archaeology
ANTH	1530	Origins of Cities
ANTH	1531	Museum Practicum
ANTH	1532	Prehistoric Art and Symbol
ANTH	1534	Archaeological Data Analysis 1
ANTH	1535	Basic Archaeological Field Training
ANTH	1537	Basic Laboratory Analysis
ANTH	1539	Ancient Maya
ANTH	1540	Special Topics in Archaeology
ANTH	1541	Cultural Resource Management
ANTH	1542	Archaeology of the Ohio Valley
ANTH	1543	Ancient States in the New World
ANTH	1544	Ancient Civilizations
ANTH	1591	Historical Archaeology
ANTH	1601	Structure and Function
ANTH	1602	Human Skeletal Analysis
ANTH	1603	Human Origins
ANTH	1604	Behavioral Ecology
ANTH	1605	Primate Anatomy
ANTH	1606	Fossil and Living Primates
ANTH	1607	Primate Behavior
ANTH	1608	Comparative Osteology and Odontology
ANTH	1611	Evolutionary Theory
ANTH	1615	Evolution of the Vertebrates
ANTH	1618	Special Topics in Sociobiology
ANTH	1619	Special Topics in Physical Anthropology
ANTH	1710	Philosophy of Anthropology
ANTH	1731	Women and Gender in the Third World
ANTH	1732	Drugs and Society: Cross-Cultural Historical Perspective
ANTH	1733	Drugs, Ethnicity, & Class in the United States
ANTH	1738	Gender Perspectives in Anthropology
ANTH	1739	Cultures of East Asia
ANTH	1743	Anthropology of Aging and Death
ANTH	1748	Cultures of South America
ANTH	1750	Undergraduate Seminar
ANTH	1751	People & Environment in Amazonia
ANTH	1752	Anthropology of Food
ANTH	1755	Urban Anthropology
ANTH	1756	Economic Anthropology
ANTH	1757	Social Organization
ANTH	1759	Chinese Society
ANTH	1760	Anthropology of Law
ANTH	1761	Patients & Healers: Medical Anthropology 1
ANTH	1763	Field Methods
ANTH	1764	Cultures and Societies of India
ANTH	1768	Cultures and Societies of Eastern Europe
ANTH	1769	Dynamics of Ethnicity
ANTH	1770	Kinship and the Family
ANTH	1771	Religion and Culture
ANTH	1772	Anthropology of Women
ANTH	1773	Cultures of Mesoamerica
ANTH	1776	Myth, Symbol, and Ritual
ANTH	1777	American Culture
ANTH	1780	Introduction to Anthropology
ANTH	1781	Anthropology of the Contemporary Caribbean
ANTH	1782	Social Stratification & Expressive Culture
ANTH	1783	Japanese Culture
ANTH	1784	Japanese Society
ANTH	1786	Cultures of the Pacific
ANTH	1787	Special Topics in Cultural Anthropology
ANTH	1788	Andean Society & Culture: Peru, Bolivia, and Ecuador

ANTH	1789	African American Folk Culture
ANTH	1791	Dialectics of Identity in Western Europe
ANTH	1792	Population and Culture
ANTH	1793	Asian Medical System
ANTH	1794	Gender and Health
ANTH	1795	Shamanic Healing and Spirit Possession
ANTH	1796	Alternative Health and Healing
ANTH	1900	Internship in Anthropology
ANTH	1901	Independent Study
ANTH	1902	Independent Study
ANTH	1903	Directed Research Readings

PHYSICS AND ASTRONOMY

ASTRON	0081	Observational Astronomy Laboratory
ASTRON	0087	Basics of Space Flight
ASTRON	0088	Stonehenge to Hubble
ASTRON	0089	Stars, Galaxies, and the Cosmos
ASTRON	0113	Introduction to Astronomy
ASTRON	1120	Stars: Stellar Structure and Evolution
ASTRON	1121	Galaxies and Cosmology
ASTRON	1263	Techniques of Astronomy
ASTRON	1900	Internship
ASTRON	1901	Independent Study
ASTRON	1902	Directed Reading
ASTRON	1903	Directed Research

BIOLOGICAL SCIENCES

BIOSC	0050	Foundations of Biology Lab 1
BIOSC	0060	Foundations of Biology Lab 2
BIOSC	0100	Preparation for Biology
BIOSC	0150	Foundations of Biology 1
BIOSC	0160	Foundations of Biology 2
BIOSC	0350	Genetics
BIOSC	0355	Genetics (UHC)
BIOSC	0370	Ecology
BIOSC	0390	Ecology Lab
BIOSC	0391	Ecology Lab Writing Practicum
BIOSC	0715	Foundations of Biology 1 (UHC)
BIOSC	0716	Foundations of Biology 2 (UHC)
BIOSC	0740	Yellowstone Field Course (UHC)
BIOSC	0800	Biology for Nonmajors 1
BIOSC	0810	Biology for Nonmajors 2
BIOSC	0850	Natural Sciences 1
BIOSC	0851	Natural Sciences 2
BIOSC	1000	Biochemistry
BIOSC	1010	Writing in the Biological Sciences
BIOSC	1030	Commercial Microbiology
BIOSC	1040	Ecological Management
BIOSC	1050	Special Topics in Marine Biology
BIOSC	1060	Special Topics in Biology
BIOSC	1080	Human Anatomy & Physiology
BIOSC	1100	Topics in Biological Research
BIOSC	1130	Evolution
BIOSC	1140	Behavioral Ecology
BIOSC	1160	Forest Ecology
BIOSC	1170	Limnology
BIOSC	1180	Ecology of Amphibians and Reptiles
BIOSC	1190	Aquatic Entomology
BIOSC	1200	Vertebrate Morphology
BIOSC	1210	Vertebrate Morphology Lab
BIOSC	1230	Ornithology
BIOSC	1240	Human Skeletal Analysis
BIOSC	1250	Introduction to Human Physiology
BIOSC	1260	Aquatic Botany
BIOSC	1270	Ecology of Fish
BIOSC	1280	Microbial Genetic Engineering
BIOSC	1290	Experimental Genetic Engineering
BIOSC	1291	Experimental Genetic Engineering Writing Practicum
BIOSC	1300	Vertebrate Community Ecology
BIOSC	1320	Population Biology
BIOSC	1330	Field Botany
BIOSC	1340	Field Entomology
BIOSC	1350	Plant Biology
BIOSC	1360	Microbial Ecology: Fungi
BIOSC	1370	Biogeography
BIOSC	1380	Global Ecology
BIOSC	1410	Vertebrate Ecology
BIOSC	1440	Animal Behavior
BIOSC	1450	Histology
BIOSC	1460	Economic Botany
BIOSC	1470	Biophysical Chemistry
BIOSC	1480	Embryology
BIOSC	1500	Cell Biology
BIOSC	1510	Cell Biology Lab
BIOSC	1511	Cell Biology Lab Writing Practicum
BIOSC	1520	Developmental Biology
BIOSC	1530	Developmental Biology Lab
BIOSC	1531	Developmental Biology Lab Writing Practicum
BIOSC	1540	Computational Biology
BIOSC	1550	Ecology and Evolution Seminar
BIOSC	1551	Ecology and Evolution Seminar Writing Practicum
BIOSC	1560	Cell and Developmental Biology Seminar
BIOSC	1561	Cell and Developmental Biology Seminar Writing Practicum
BIOSC	1570	Microbiology Seminar
BIOSC	1571	Microbiology Seminar Writing Practicum
BIOSC	1580	Biochemistry Seminar
BIOSC	1581	Biochemistry Seminar Writing Practicum
BIOSC	1590	Special Topics in Biological Sciences
BIOSC	1600	Stream Ecology
BIOSC	1690	Experience in Undergraduate Teaching
BIOSC	1730	Virology
BIOSC	1740	Virology Lab
BIOSC	1741	Virology Lab Writing Practicum
BIOSC	1750	Immunology Lab
BIOSC	1751	Immunology Lab Writing Practicum
BIOSC	1760	Immunology
BIOSC	1810	Macromolecular Structure & Function
BIOSC	1820	Metabolic Pathways
BIOSC	1830	Biochemistry Lab
BIOSC	1831	Biochemistry Lab Writing Practicum
BIOSC	1850	Microbiology
BIOSC	1855	Introduction to Experimental Microbiology

BIOSC	1860	Microbiology Lab
BIOSC	1861	Microbiology Lab Writing Practicum
BIOSC	1865	Microbial Physiology
BIOSC	1870	Animal Physiology
BIOSC	1880	Animal Physiology Lab
BIOSC	1881	Animal Physiology Lab Writing Practicum
BIOSC	1901	Independent Study
BIOSC	1903	Undergraduate Research
BIOSC	1904	Undergraduate Honors Research
BIOSC	1940	Molecular Biology
BIOSC	1950	Molecular Genetics Lab
BIOSC	1951	Molecular Genetics Lab Writing Practicum
BIOSC	1980	Molecular Biophysics
BIOSC	1990	Molecular Biophysics Laboratory
BIOSC	1999	Medical Microbiology

CHEMISTRY

CHEM	0100	Preparation for General Chemistry
CHEM	0110	General Chemistry 1
CHEM	0120	General Chemistry 2
CHEM	0250	Introduction to Analytical Chemistry
CHEM	0260	Introduction to Analytical Chemistry Lab
CHEM	0310	Organic Chemistry 1
CHEM	0320	Organic Chemistry 2
CHEM	0330	Organic Chemistry Laboratory 1
CHEM	0340	Organic Chemistry Laboratory 2
CHEM	0410	General Chemistry 1
CHEM	0420	General Chemistry 2
CHEM	0430	General Chemistry 1 Laboratory
CHEM	0440	General Chemistry 2 Laboratory
CHEM	0710	UHC General Chemistry 1
CHEM	0720	UHC General Chemistry 2
CHEM	0730	UHC Organic Chemistry 1
CHEM	0740	UHC Organic Chemistry 2
CHEM	0750	UHC Organic Laboratory 2
CHEM	0760	UHC General Chemistry for Engineers 1
CHEM	0765	Materials Chemistry 1
CHEM	0770	UHC General Chemistry for Engineers 2
CHEM	0775	Materials Chemistry 2
CHEM	0800	Chemistry for Nonscientists
CHEM	0810	Contemporary Issues: Impact of Public Policy
CHEM	0910	Chemical Principles for Health Professionals
CHEM	0960	General Chemistry for Engineers 1
CHEM	0970	General Chemistry for Engineers 2
CHEM	1130	Inorganic Chemistry
CHEM	1140	Advanced Inorganic Laboratory
CHEM	1210	Digital Electronics
CHEM	1250	Instrumental Analysis
CHEM	1255	Instrumental Analysis Lab
CHEM	1260	Intermediate Analytical Chemistry
CHEM	1270	Special Topics: Instrumental Analysis 1
CHEM	1280	Special Topics: Instrumental Analysis 2
CHEM	1281	Instrumental Analysis Writing Practicum
CHEM	1310	Synthetic Organic Chemistry
CHEM	1380	Techniques of Organic Research
CHEM	1410	Physical Chemistry 1
CHEM	1420	Physical Chemistry 2
CHEM	1430	Physical Chemistry Laboratory 1
CHEM	1431	Physical Chemistry Lab Writing Practicum
CHEM	1440	Physical Chemistry Laboratory 2
CHEM	1450	Molecular Modeling and Graphics
CHEM	1460	Computational Methods in Chemistry
CHEM	1470	Photonics Theory 1
CHEM	1480	Photonics Theory 2
CHEM	1480	Intermediate Physical Chemistry
CHEM	1490	Introduction to Chemical Kinetics
CHEM	1540	Introduction to Mass Spectrometry
CHEM	1550	Introduction to Magnetic Resonance
CHEM	1560	Interpreting Mass Spectra of Organic Molecules
CHEM	1590	Molecular Biophysics
CHEM	1595	Molecular Biophysics Laboratory
CHEM	1600	Synthesis and Characterization of Polymers
CHEM	1700	Undergraduate Research Seminar
CHEM	1701	Undergraduate Research Seminar Writing Practicum
CHEM	1710	Undergraduate Research
CHEM	1711	Undergraduate Research Writing Practicum
CHEM	1720	Undergraduate Teaching Experience
CHEM	1750	Photonics Seminar
CHEM	1902	Directed Study

EAST ASIAN LANGUAGES & LITERATURES

CHIN	0001	First Year Spoken 1
CHIN	0002	First Year Spoken 2
CHIN	0003	Second Year Spoken 1
CHIN	0004	Second Year Spoken 2
CHIN	0011	First Year Reading 1
CHIN	0012	First Year Reading 2
CHIN	0013	Second Year Reading 1
CHIN	0014	Second Year Reading 2
CHIN	0025	Chinese for Professionals 1
CHIN	0026	Chinese for Professionals 2
CHIN	0080	City Life and East Asian Culture
CHIN	0081	East Asia in the World
CHIN	0082	Hong Kong Cinema
CHIN	1005	Third Year Spoken 1
CHIN	1006	Third Year Spoken 2
CHIN	1020	Third Year Reading 1
CHIN	1021	Third Year Reading 2
CHIN	1040	Literary Chinese 1: Classical
CHIN	1041	Literary Chinese 2: Classical
CHIN	1047	Chinese and Western Poetry
CHIN	1065	Sources on East Asia
CHIN	1070	Love & Power
CHIN	1082	20th-Century Chinese Arts
CHIN	1083	Masterpieces in Chinese Literature: Premodern
CHIN	1084	Masterpieces in Chinese Literature and Film
CHIN	1085	Introduction to East Asian Cinema

CHIN	1086	Love in Chinese and Western Literature
CHIN	1087	Introduction to Chinese Narrative
CHIN	1088	New Chinese Cinema
CHIN	1089	The World of China
CHIN	1090	Great Minds of China
CHIN	1562	Confucianism: Basic Texts
CHIN	1901	Independent Study
CHIN	1908	Directed Writing for Majors

CLASSICS

CLASS	0010	Greek Civilization
CLASS	0020	Roman Civilization
CLASS	0030	Mythology in the Ancient World
CLASS	0034	Women and Men in the Ancient Mediterranean
CLASS	0035	Women and Men in the Ancient Mediterranean/Writing Practicum
CLASS	0037	Mythology in the Ancient World/Writing Practicum
CLASS	0100	Masterpieces of Greek and Roman Literature
CLASS	0300	History of Ancient Philosophy
CLASS	0302	History of Ancient Philosophy/Writing Practicum
CLASS	0330	Myth and Science
CLASS	1022	The Augustan Age
CLASS	1050	Greek and Latin Elements in English
CLASS	1130	Classical Mythology and Literature
CLASS	1140	Greek Tragedy
CLASS	1142	Ancient Epic
CLASS	1144	Greek and Roman Lyric Poetry
CLASS	1146	Greek and Roman Historians
CLASS	1210	Greek History
CLASS	1212	Greek History/Writing Practicum
CLASS	1216	Alexander and the Hellenistic Age
CLASS	1220	Roman History
CLASS	1222	Roman History/Writing Practicum
CLASS	1250	Law and Society in Greece and Rome
CLASS	1312	Plato
CLASS	1314	Aristotle
CLASS	1390	Topics in Ancient Philosophy
CLASS	1430	Origins of Christianity
CLASS	1432	Varieties of Early Christianity
CLASS	1450	Classical Judaism
CLASS	1510	Greek Art
CLASS	1520	Roman Art
CLASS	1710	Sanskrit 1
CLASS	1720	Sanskrit 2
CLASS	1730	Sanskrit 3
CLASS	1740	Sanskrit 4
CLASS	1901	Independent Study

COMMUNICATIONS

COMMRC	0300	Communication Process
COMMRC	0310	Rhetorical Process
COMMRC	0320	Mass Communication Process
COMMRC	0500	Argument
COMMRC	0510	Debate
COMMRC	0520	Public Speaking
COMMRC	0530	Interpersonal Communication
COMMRC	0540	Discussion
COMMRC	1018	Presidential Rhetoric 1
COMMRC	1019	Presidential Rhetoric 2
COMMRC	1101	Evidence
COMMRC	1102	Organizational Communication
COMMRC	1103	Rhetoric and Culture
COMMRC	1104	Political Communication
COMMRC	1105	Television and Society
COMMRC	1106	Small Group Communication
COMMRC	1109	Nonverbal Communication
COMMRC	1110	Theories of Interpersonal Communication
COMMRC	1111	Theories of Persuasion
COMMRC	1112	Theories of Rhetoric
COMMRC	1113	African Americans and Mass Media
COMMRC	1114	Freedom of Speech and Press
COMMRC	1115	African American Rhetoric
COMMRC	1116	Rhetoric of Cynicism and Counter Culture
COMMRC	1117	20th-Century Public Argument
COMMRC	1118	Presidential Rhetoric 1
COMMRC	1119	Presidential Rhetoric 2
COMMRC	1120	Rhetoric of the Cold War
COMMRC	1121	History of Mass Media
COMMRC	1122	Media Criticism
COMMRC	1123	Rhetorical Criticism
COMMRC	1125	Media Theory
COMMRC	1126	Media and Consumer Culture
COMMRC	1142	Theories of Modern Rhetoric
COMMRC	1143	Knowledge, Power, and Desire
COMMRC	1145	History of Rhetoric
COMMRC	1147	Rhetoric of Science
COMMRC	1148	Rhetoric and Human Rights
COMMRC	1710	Senior Thesis in Communication
COMMRC	1730	Special Topics in Communication
COMMRC	1731	Special Topics in Rhetoric
COMMRC	1732	Special Topics in Mass Communication
COMMRC	1900	Communication Internship
COMMRC	1901	Independent Study

COMPUTER SCIENCE

CS	0004	Introduction to Computer Programming: Basic
CS	0007	Introduction to Computer Programming: Pascal
CS	0110	Computers and Networks
CS	0131	Software for Personal Computing
CS	0132	Programming in C and a Guide to the Unix Operating System
CS	0401	Introduction to Computer Science
CS	0441	Discrete Structures for Computer Science
CS	0445	Introduction to Information Structures
CS	0447	Computer Organization and Assembly Language Programming
CS	1501	Data Structures and Algorithms
CS	1502	Formal Methods in Computer Science
CS	1510	Design and Analysis of Algorithms
CS	1511	Introduction to the Theory of Computation
CS	1515	Scientific Computation
CS	1520	Programming Languages

CS	1530	Software Engineering
CS	1538	Introduction to Simulation
CS	1541	Introduction to Computer Architecture
CS	1550	Introduction to Operating Systems
CS	1555	Database Management Systems
CS	1566	Introduction to Computer Graphics
CS	1571	Introduction to Artificial Intelligence
CS	1573	Artificial Intelligence Programming
CS	1590	Social Implications of Computing Technology
CS	1621	Structure of Programming Languages
CS	1622	Introduction to Compiler Design
CS	1631	Software Design Methodology
CS	1645	Introduction to High Performance Computing Systems
CS	1651	Advanced Systems Software
CS	1652	Data Communications and Computer Networks
CS	1699	Special Topics in Computer Science
CS	1900	Internship
CS	1950	Directed Study

ECONOMICS

ECON	0100	Introduction to Microeconomic Theory
ECON	0109	Great Economic Ideas
ECON	0110	Introduction to Macroeconomic Theory
ECON	0120	Introductory Economic Theory
ECON	0140	UHC Introduction to Political Economy
ECON	0160	Introduction to Econometrics
ECON	0170	Introduction to Mathematical Modeling
ECON	0180	Economics and the Media
ECON	0230	Public Finance 1
ECON	0280	Introduction to Money and Banking
ECON	0330	Urban Economics
ECON	0360	Introduction to Environmental and Resource Economics
ECON	0400	Labor and the Economy
ECON	0430	Women in the Labor Market
ECON	0450	Economics of Technological Change
ECON	0470	Industrial Organization 1
ECON	0480	Consumer Economics
ECON	0500	Introduction to International Trade
ECON	0520	Comparative Economic Systems
ECON	0530	Introduction to Development Economics
ECON	0630	East Asia's Dynamic Economies
ECON	0800	Introduction to Economics
ECON	0810	Consumer Economics
ECON	0820	Regulated Industries
ECON	0830	Government Regulation of Business
ECON	0905	Special Topics
ECON	1010	American Economic History
ECON	1030	Intellectual Foundations of Capitalism
ECON	1060	Economic and Business History of the United States
ECON	1070	History of Economic Thought 1
ECON	1080	History of Economic Thought 2
ECON	1100	Intermediate Microeconomics
ECON	1110	Intermediate Macroeconomics
ECON	1130	Operations Research Analysis
ECON	1140	Economic Modeling and Forecasting
ECON	1150	Applied Econometrics 1
ECON	1160	Applied Econometrics 2
ECON	1170	Mathematics for Economists
ECON	1180	Mathematical Economics
ECON	1200	Introduction to Game Theory
ECON	1230	Intermediate Public Finance
ECON	1280	Monetary Theory and Policy
ECON	1300	Introduction to Regional Economics
ECON	1310	Methods of Regional Analysis
ECON	1320	Urban Economics
ECON	1360	Environmental Economics
ECON	1390	Work, Self, and Society
ECON	1400	Theory of Labor Unions
ECON	1410	Collective Bargaining
ECON	1420	Labor Economics
ECON	1440	Economics of Corporation Finance
ECON	1470	Industrial Organizatons 2
ECON	1500	Intermediate International Trade
ECON	1510	Intermediate International Finance
ECON	1520	Transition from a Centrally Planned to Market Economy
ECON	1530	Intermediate Development Economics
ECON	1540	Theory of Economic Growth
ECON	1560	World Food Economy
ECON	1610	Latin American Economic Development
ECON	1630	Economic Development of China
ECON	1640	Japanese Economic Growth
ECON	1670	Former Socialist Economics and Transition
ECON	1680	Economics of European Union
ECON	1700	Proseminar in Methodology of Economics
ECON	1710	Proseminar in International Economics
ECON	1720	Proseminar in Monetary Policy and Macroeconomics
ECON	1730	Seminar in Experimental Economics
ECON	1901	Independent Study
ECON	1902	Directed Study
ECON	1903	Directed Research
ECON	1905	Special Topics
ECON	1960	Politics and Economics of Public Policy

ENGLISH

ENGCMP	0100	Intensive Workshop in Composition
ENGCMP	0101	Intensive Composition Workshop
ENGCMP	0150	Workshop in Composition
ENGCMP	0152	ESL: Workshop in Composition
ENGCMP	0200	Seminar in Composition
ENGCMP	0201	Composition Tutorial
ENGCMP	0203	Seminar in Composition: Women's Studies
ENGCMP	0205	Seminar in Composition: Film
ENGCMP	0207	Seminar in Composition: Education
ENGCMP	0400	Written Professional Communication

ENGCMP	0410	Writing in the Legal Professions
ENGCMP	0440	Critical Writing
ENGCMP	0450	Research Writing
ENGCMP	0500	Topics in Composition
ENGCMP	1095	Composition Tutoring
ENGCMP	1200	Topics in Composition
ENGCMP	1210	Tutoring Peer Writers
ENGCMP	1220	Advanced Writing: Prose Style
ENGCMP	1552	The Uses of Literacy

ENGLISH

ENGLIT	0300	Introduction to Literature
ENGLIT	0310	The Dramatic Imagination
ENGLIT	0315	Reading Poetry
ENGLIT	0320	The Comic Idea
ENGLIT	0325	Short Story in Context
ENGLIT	0350	Literature, Tradition, and the New
ENGLIT	0354	Words and Images
ENGLIT	0360	Women and Literature
ENGLIT	0370	Literature and Ideas
ENGLIT	0400	Introduction to Film
ENGLIT	0500	Introduction to Critical Reading
ENGLIT	0530	Film Analysis
ENGLIT	0532	Introduction to Film Genres
ENGLIT	0540	World Film History
ENGLIT	0550	Introduction to Popular Culture
ENGLIT	0560	Children and Culture
ENGLIT	0562	Childhood's Books
ENGLIT	0570	American Literary Traditions
ENGLIT	0572	Introduction to African Literature
ENGLIT	0573	Literature of the Americas
ENGLIT	0580	Introduction to Shakespeare
ENGLIT	0590	Formative Masterpieces
ENGLIT	0597	Bible as Literature
ENGLIT	1015	Film Theory
ENGLIT	1020	History of Literary Criticism
ENGLIT	1023	Contemporary Critical Theory
ENGLIT	1028	Literature and Psychoanalysis
ENGLIT	1031	Narrative Theory in Film
ENGLIT	1100	Medieval Imagination
ENGLIT	1103	Introduction to Old English
ENGLIT	1104	Old English Poetry
ENGLIT	1105	Middle English Literature
ENGLIT	1115	Chaucer
ENGLIT	1125	Renaissance in England
ENGLIT	1126	Advanced Shakespeare
ENGLIT	1127	Shakespeare on Film
ENGLIT	1128	Women in Shakespeare
ENGLIT	1132	Elizabethan and Jacobean Drama
ENGLIT	1150	Enlightenment to Revolution
ENGLIT	1154	18th-Century Novel
ENGLIT	1170	The Romantic Period
ENGLIT	1175	19th-Century British Literature
ENGLIT	1180	Victorian Literature
ENGLIT	1181	Victorian Novel
ENGLIT	1190	British Film
ENGLIT	1199	Topics in British Literature
ENGLIT	1200	American Literature to 1860
ENGLIT	1210	The American Renaissance
ENGLIT	1212	The American West
ENGLIT	1220	Emergence of Modern America (1860–1914)
ENGLIT	1240	Topics in American Literature
ENGLIT	1245	Black Literature
ENGLIT	1250	20th-Century American Literature
ENGLIT	1255	American Theatre
ENGLIT	1272	Roaring 20s
ENGLIT	1280	Contemporary American Women Writers
ENGLIT	1290	History of American Film 1
ENGLIT	1291	History of American Film 2
ENGLIT	1300	Realist Tradition
ENGLIT	1310	The European Novel
ENGLIT	1325	The Modernist Tradition
ENGLIT	1342	Contemporary Literature in Context
ENGLIT	1360	Topics in 20th-Century Literature
ENGLIT	1370	Makers of Modern Drama
ENGLIT	1372	Contemporary Drama
ENGLIT	1380	World Literature in English
ENGLIT	1390	Contemporary Film
ENGLIT	1470	Film Directors
ENGLIT	1471	Orson Welles
ENGLIT	1472	Hitchcock's Films
ENGLIT	1476	The Films of Stanley Kubrick
ENGLIT	1480	Topics in Film
ENGLIT	1482	The Star System
ENGLIT	1485	Film and Politics
ENGLIT	1551	Introduction to the English Language
ENGLIT	1552	History of the English Language
ENGLIT	1556	Topics in the Study of the English Language
ENGLIT	1570	Myth and Folktale
ENGLIT	1572	Fantasy and Romance
ENGLIT	1578	Fantasy Writers
ENGLIT	1579	Tolkien and Lewis
ENGLIT	1587	Utopian Literature
ENGLIT	1601	Comedy
ENGLIT	1602	Tragedy
ENGLIT	1603	Satire
ENGLIT	1607	Advanced Short Story
ENGLIT	1610	Topics in Genre
ENGLIT	1611	Development of the Novel
ENGLIT	1612	The African Novel
ENGLIT	1620	Poetry: Form and Argument
ENGLIT	1645	Critical Approaches to Children's Literature
ENGLIT	1647	Literature for Adolescents
ENGLIT	1649	Topics in Children's Literature
ENGLIT	1661	Science Fiction
ENGLIT	1663	Detective Fiction
ENGLIT	1681	Film Comedy
ENGLIT	1682	Photographer and Photography since WWII
ENGLIT	1683	Documentary Film
ENGLIT	1685	Film Musical
ENGLIT	1688	Film Western
ENGLIT	1692	Film Melodrama
ENGLIT	1695	Horror Film
ENGLIT	1699	Science Fiction Film
ENGLIT	1701	Topics in Women's Studies
ENGLIT	1703	Women and Film
ENGLIT	1704	Women Novelists
ENGLIT	1715	Africana World Literature
ENGLIT	1716	Topics in Black Literature
ENGLIT	1720	Working Class Literature

ENGLIT	1730	Chinese and Western Poetry
ENGLIT	1731	Topics in Ethnic Literature
ENGLIT	1738	Irish Literature
ENGLIT	1752	Television Analysis
ENGLIT	1756	Ballads and Blues
ENGLIT	1760	Topics in Popular Culture
ENGLIT	1771	Themes in Literature
ENGLIT	1772	Adoption Literature
ENGLIT	1774	Literature of Sports
ENGLIT	1790	Film and Literature
ENGLIT	1797	Bible as Literature 2
ENGLIT	1900	Junior Seminar
ENGLIT	1901	Independent Study
ENGLIT	1909	Senior Seminar
ENGLIT	1910	Senior Seminar
ENGLIT	1920	Advanced Seminar in Film Studies

ENGLISH

ENGWRT	0400	Introduction to Creative Writing
ENGWRT	0411	Introduction to Creative Nonfiction
ENGWRT	0520	Introduction to Fiction Writing
ENGWRT	0530	Introduction to Poetry Writing
ENGWRT	0550	Introduction to Journalism
ENGWRT	1010	Intermediate Fiction
ENGWRT	1090	Mastering Point of View
ENGWRT	1091	Autobiography and Creative Impulse
ENGWRT	1092	Writer's Journals
ENGWRT	1093	Development of a Writer
ENGWRT	1094	Readings in Contemporary Fiction
ENGWRT	1095	Topics in Fiction
ENGWRT	1210	Poetry Workshop
ENGWRT	1290	Readings in Contemporary Poetry
ENGWRT	1291	Underground and Avant-Garde
ENGWRT	1292	Contemporary Poetry in Translation
ENGWRT	1293	Topics in Poetry
ENGWRT	1310	Newspaper 1
ENGWRT	1320	Newspaper 2
ENGWRT	1330	Nonfiction 1
ENGWRT	1340	Nonfiction 2
ENGWRT	1370	The Pitt News
ENGWRT	1390	Readings in Contemporary Nonfiction
ENGWRT	1391	Writing the Review
ENGWRT	1392	Documentary Film Writing
ENGWRT	1393	Sports Writing
ENGWRT	1394	Science Writing
ENGWRT	1395	Public Relations Writing
ENGWRT	1397	Creative Corporate Writing
ENGWRT	1398	Corporate Speech Writing
ENGWRT	1399	Topics in Nonfiction: Newspaper
ENGWRT	1401	Topics in Nonfiction: Magazine
ENGWRT	1402	Structure and Techniques in Creative Nonfiction
ENGWRT	1403	Topics in Nonfiction: Electronic Media
ENGWRT	1405	Broadcast Writing
ENGWRT	1650	Playwriting 1
ENGWRT	1651	Playwriting 2
ENGWRT	1710	Senior Seminar in Fiction
ENGWRT	1730	Senior Seminar in Poetry
ENGWRT	1750	Senior Seminar in Nonfiction
ENGWRT	1760	Advanced Reporting
ENGWRT	1900	Internship: News
ENGWRT	1901	Independent Study
ENGWRT	1910	Internship: Public Relations

FILM STUDIES

FILMST	0100	Filmmaking 1
FILMST	0101	Filmmaking 2
FILMST	0121	Animation Basics
FILMST	0200	Black and White Photography 1
FILMST	0201	Black and White Photography 2
FILMST	0205	Photography for Filmmakers
FILMST	0220	Color Photography 1
FILMST	0225	Studio Lighting Techniques
FILMST	0230	Nonsilver Printing 1
FILMST	0235	Documentary Photography
FILMST	0270	Looking at Photographs
FILMST	0275	History of Photography 1
FILMST	0276	History of Photography 2
FILMST	0300	Video Production
FILMST	0305	Advanced Video Production
FILMST	0400	Introduction to Digital
FILMST	0600	Film to Tape
FILMST	1111	Filmmaking 3
FILMST	1112	Filmmaking 4
FILMST	1130	Technical Directing
FILMST	1132	Introduction to Screenwriting
FILMST	1133	Developing the Feature Script
FILMST	1140	Acting for the Camera
FILMST	1141	Acting for the Camera: Advanced Techniques
FILMST	1145	Sound for Film
FILMST	1150	Film Editing
FILMST	1156	Cinematography
FILMST	1157	Lighting for Film and Video
FILMST	1160	Crew Production Workshop
FILMST	1165	Senior Film Production 1
FILMST	1166	Senior Film Production 2
FILMST	1170	Digital Nonlinear Editing
FILMST	1200	Black and White Photography 3
FILMST	1201	View Camera Techniques
FILMST	1205	Advanced Photo Seminar
FILMST	1210	Color Photography 2
FILMST	1220	The Zone System
FILMST	1225	Nonsilver Printing 2
FILMST	1230	Experimental Darkroom
FILMST	1235	Experimental Camera
FILMST	1240	Human Figure
FILMST	1245	Photo Materials and Processes
FILMST	1300	Electronic Field Production
FILMST	1900	Internship in Film
FILMST	1901	Independent Study in Film
FILMST	1910	Internship in Photography
FILMST	1911	Independent Study in Photography
FILMST	1920	Internship in Video
FILMST	1921	Independent Study in Video

FRENCH & ITALIAN LANGUAGES AND LITERATURES

FR	0001	Elementary French 1
FR	0002	Elementary French 2
FR	0003	Intermediate French 1
FR	0004	Intermediate French 2

FR	0006	French for Law
FR	0007	Intensive French for Reading 1
FR	0008	Intensive French for Reading 2
FR	0020	Introduction to Civilization
FR	0021	Approaches to French Literature
FR	0031	Elementary French 1 for MBAs
FR	0032	Elementary French 2 for MBAs
FR	0033	Elementary French 3 for MBAs
FR	0055	French Conversation
FR	0056	Written French 1
FR	0057	Written French 2
FR	0058	Advanced French Conversation
FR	0080	Modern French Novel
FR	0081	French Theatre
FR	0085	French Film 1930–1960
FR	1001	Poetry
FR	1002	French Theatre
FR	1003	Novel 1
FR	1004	Novel 2
FR	1010	Medieval and Renaissance Topics
FR	1012	17th-Century Topics
FR	1014	18th-Century Topics
FR	1016	19th-Century Topics
FR	1018	20th-Century Topics
FR	1031	French Phonetics
FR	1032	Stylistics
FR	1033	Business French
FR	1038	Structure of Modern French
FR	1039	Applied Linguistics: French for Teachers
FR	1040	French Language Past and Present
FR	1050	French Civilization 1
FR	1051	French Civilization 2
FR	1052	Special Topics in French Civilization
FR	1054	Medieval French Civilization: Special Topics
FR	1055	16th-Century French Civilization: Special Topics
FR	1056	17th-Century French Civilization: Special Topics
FR	1057	18th-Century French Civilization: Special Topics
FR	1058	19th-Century French Civilization: Special Topics
FR	1059	20th-Century French Civilization: Special Topics
FR	1072	Representing Justice
FR	1074	Jean-Jacques Rousseau
FR	1076	French Intellectuals
FR	1081	Special Topics in Literature (in English)
FR	1082	Citizen and State in Early Modern French Thought
FR	1084	Politics in Modern French Literature
FR	1085	Women's Voices in French Literature
FR	1086	Medical French
FR	1087	Legal French
FR	1088	Special Topics
FR	1089	Francophone Africana Literature
FR	1090	Introduction to Translation Studies 1
FR	1091	Introduction to Translation Studies 2
FR	1902	Directed Study
FR	1903	Honors Directed Research: French Majors
FR	1905	Internship in French

GEOLOGY & PLANETARY SCIENCE

GEOL	0030	World Physical Geography
GEOL	0040	Physical Geology
GEOL	0055	Geology Laboratory
GEOL	0060	Historical Geology
GEOL	0800	Geology
GEOL	0802	Geology of the National Parks
GEOL	0840	Earth Systems Science
GEOL	0842	Planet Earth
GEOL	0860	Environmental Geology
GEOL	0870	The Planets
GEOL	0871	Intelligent Life in the Universe
GEOL	0890	Physical Oceanography
GEOL	1001	Mineralogy
GEOL	1003	Igneous and Metamorphic Petrology
GEOL	1020	Sedimentology and Stratigraphy
GEOL	1051	Groundwater Geology
GEOL	1055	Environmental Science, Ethics, and Public Policy
GEOL	1056	UHC Environmental Science, Ethics, and Public Policy
GEOL	1060	Geomorphology
GEOL	1079	Field Methods
GEOL	1080	Geoarcheology
GEOL	1100	Structural Geology
GEOL	1200	Paleontology
GEOL	1313	Communication for Environmental Professionals
GEOL	1400	Introduction to Solid-Earth Geophysics
GEOL	1410	Exploration Geophysics
GEOL	1413	Well Logging
GEOL	1445	GIS, GPS, and Computer Methods
GEOL	1460	Remote Sensing of the Earth
GEOL	1500	Chemistry of Earth and Its Environment
GEOL	1515	Environmental Geochemistry
GEOL	1602	Mineral and Energy Resources
GEOL	1640	Geologic and Environmental Hazards
GEOL	1701	Geology of the Planets
GEOL	1900	Internship
GEOL	1901	Independent Study
GEOL	1903	Undergraduate Research
GEOL	1904	Research in Environmental Policy
GEOL	1960	Field Camp

GERMANIC LANGUAGES & LITERATURES

GER	0001	Elementary German 1
GER	0002	Elementary German 2
GER	0003	Intermediate German 1
GER	0004	Intermediate German 2
GER	0011	Conversation 1
GER	0012	Conversation 2
GER	0021	German Reading 1
GER	0022	German Reading 2
GER	0101	Beginning German 1
GER	0102	Beginning German 2
GER	0103	Beginning German 3

GER	1000	Reading Literary Texts
GER	1001	Writing in German
GER	1002	German Phonetics
GER	1003	Professional German 1
GER	1004	Professional German 2: Business German
GER	1051	Introduction to Literary Analysis
GER	1052	Major Cultural Periods
GER	1101	Advanced German 1: Media
GER	1102	Advanced German 2: Structures
GER	1186	Major Authors
GER	1197	German Legal Translation
GER	1199	German Scientific/Technical Translation
GER	1200	Literature and Culture: 750–1750
GER	1210	Introduction to History of the German Language
GER	1220	Literature and Culture: 1750–1830
GER	1224	Special Topics: 1750–1830
GER	1228	Literature and Culture: 1830–1890
GER	1234	Literature and Culture: 1890–1918
GER	1240	20th-Century Literature and Culture
GER	1242	Peace/Militarism in German Culture
GER	1246	Literature and Culture: 1918–1933
GER	1252	Current Literature and Culture
GER	1304	German Lyric Poetry
GER	1306	Major Poet(s)
GER	1320	German Prose Fiction
GER	1322	Major Prose Author(s)
GER	1324	Special Topics in German Prose
GER	1328	The Novelle
GER	1330	Simple Forms
GER	1350	German Drama
GER	1352	Special Topics in German Drama
GER	1354	Major Playwright(s)
GER	1356	Classical Drama
GER	1380	New German Cinema
GER	1384	Film and Fascism
GER	1390	Foreigners in Postwar Germany
GER	1500	Germanic Myths, Legends, and Sagas
GER	1502	Indo-European Folktales
GER	1503	Indo-European Folktales Writing Practicum
GER	1506	Goethe
GER	1508	The German Search for Order
GER	1510	Kafka and the Modern World
GER	1512	Authority and Literature
GER	1514	Hermann Hesse
GER	1518	Bertolt Brecht
GER	1520	Hitler's Germany
GER	1522	Germany Today
GER	1528	Vienna
GER	1530	Weimar Culture
GER	1535	Outsiders in German Literature
GER	1542	Peace and Militarism in German Culture
GER	1900	Internship
GER	1901	Independent Study
GER	1902	Directed Study
GER	1990	Senior Thesis

GREEK

GREEK	0010	Beginning Ancient Greek 1
GREEK	0020	Beginning Ancient Greek 2
GREEK	0210	Intermediate Greek: Prose
GREEK	0220	Intermediate Greek: Verse
GREEK	1011	Beginning Ancient Greek 1
GREEK	1021	Beginning Ancient Greek 2
GREEK	1300	Greek Authors 1
GREEK	1301	Greek Authors 1: Writing Practicum
GREEK	1302	Greek Authors 2
GREEK	1303	Greek Authors 2: Writing Practicum
GREEK	1420	Greek Reading: Philosophers
GREEK	1430	Greek Reading: Special Topics
GREEK	1600	Topics in Greek Literature
GREEK	1700	Greek Prose Composition
GREEK	1902	Directed Study for Undergraduates

HISTORY OF ART & ARCHITECTURE

HA&A	0010	Introduction to Art
HA&A	0011	Introduction to Art/Writing Practicum
HA&A	0020	Introduction to Asian Art
HA&A	0021	Introduction to Asian Art/Writing Practicum
HA&A	0030	Introduction to Modern Art
HA&A	0033	Introduction to Modern Art/Writing Practicum
HA&A	0040	Introduction to Architecture
HA&A	0041	Introduction to Architecture/Writing Practicum
HA&A	0045	Introduction to Modern Architecture
HA&A	0050	Introduction to Medieval Art
HA&A	0051	Introduction to Medieval Art/ Writing Practicum
HA&A	0055	Special Topics—Medieval Art
HA&A	0061	Introduction to Paintings
HA&A	0070	European Visual Traditions: From Renaissance to the Present
HA&A	0080	World Religious Architecture
HA&A	0100	Special Topics—Ancient
HA&A	0200	Special Topics—Medieval
HA&A	0240	Medieval Artistic Patronage
HA&A	0302	Renaissance Art
HA&A	0303	Landscape Painting 1500–1700
HA&A	0305	Renaissance Art/Writing Practicum
HA&A	0350	Baroque Art
HA&A	0400	Special Topics—Modern
HA&A	0402	Women Artists 1550–1980
HA&A	0420	Van Gogh
HA&A	0440	Frank Lloyd Wright
HA&A	0450	20th-Century Architecture
HA&A	0470	Photography and Art
HA&A	0480	Modern Architecture
HA&A	0501	American Art
HA&A	0510	Pittsburgh Architecture/Urbanism
HA&A	0601	Special Topics—Japanese
HA&A	0620	Art of China
HA&A	0640	Art of Japan
HA&A	0690	Chinese Landscape Painting
HA&A	0710	African Art
HA&A	0720	Hindu Art
HA&A	0801	Film Analysis

HA&A	0810	Experimental Cinema
HA&A	0820	World Film History
HA&A	1010	Approaches to Art History
HA&A	1020	Museum Studies Exhibition Seminar
HA&A	1040	History of Architecture Theory
HA&A	1100	Special Topics—Ancient
HA&A	1110	Greek Art
HA&A	1130	Roman Art
HA&A	1160	Roman Architecture
HA&A	1200	Special Topics—Medieval
HA&A	1210	Medieval Iconography
HA&A	1212	Palaeography
HA&A	1215	Medieval Manuscript Illumination
HA&A	1220	Early Christian/Byzantine Architecture
HA&A	1235	English Medieval Architecture
HA&A	1240	Romanesque Architecture
HA&A	1250	Gothic Architecture
HA&A	1255	Gothic Art
HA&A	1300	Special Topics—Renaissance
HA&A	1304	16th-Century Italian Painting
HA&A	1305	Early Renaissance Architecture
HA&A	1306	High Renaissance Architecture
HA&A	1307	Painting in 17th-Century Holland
HA&A	1308	Italian 17th-Century Painting
HA&A	1400	Special Topics—Modern
HA&A	1401	Special Topics—Contemporary
HA&A	1404	Modern Sculpture
HA&A	1405	18th-Century Art
HA&A	1408	Classical Tradition in Architecture
HA&A	1410	Realism and Impressionism
HA&A	1480	Architecture Since 1945
HA&A	1500	Special Topics—American
HA&A	1510	Pittsburgh Architecture/Urbanism
HA&A	1512	American Sculpture
HA&A	1530	American Architecture 1: To Civil War
HA&A	1531	American Architecture 2: To Today
HA&A	1600	Special Topics—Chinese
HA&A	1601	Special Topics—Japanese
HA&A	1605	Ancient Chinese Art
HA&A	1630	History of Chinese Architecture
HA&A	1640	20th-Century Chinese Art
HA&A	1650	Chinese Archaeology
HA&A	1652	Japanese Art of the Hein/Kamakura Period
HA&A	1659	Language of Japanese Aesthetics
HA&A	1675	15th- and 16th-Century Japanese Art and Painting
HA&A	1700	Special Topics—India
HA&A	1810	Experimental Video
HA&A	1820	Documentary Film
HA&A	1880	World Cities
HA&A	1900	Architectural Studies Internship
HA&A	1901	Independent Study
HA&A	1903	History of Art & Architecture Internship
HA&A	1905	Honors Seminar/Majors
HA&A	1910	Special Topics—Architecture
HA&A	1911	Architectural Seminar: Monographic Topics
HA&A	1913	Architectural Studies Seminar
HA&A	1915	Architectural Studies Portfolio
HA&A	1950	Senior Thesis
HA&A	1990	20th-Century Russian Art

HISTORY

HIST	0014	Introduction to Africa
HIST	0042	Sociology of Revolution
HIST	0050	Social Change
HIST	0089	Magic, Medicine, and Science
HIST	0100	Western Civilization 1
HIST	0101	Western Civilization 2
HIST	0102	Western Civilization 1/Writing Practicum
HIST	0123	UHC Western Civilization 1
HIST	0124	UHC Western Civilization 2
HIST	0126	French Revolution
HIST	0127	Comparative Analysis—Fascism
HIST	0139	Viking Age Scandinavia
HIST	0151	Ideologies and Social Change
HIST	0175	Inquisitions
HIST	0187	World War II Europe
HIST	0200	East Europe Civilization
HIST	0220	Modern Polish History
HIST	0300	Russia to 1860
HIST	0301	Russia to 1917
HIST	0302	Soviet Russia
HIST	0400	Traditional East Asia to 1850
HIST	0401	Modern East Asian Civilization
HIST	0402	History of East Asia
HIST	0430	Japan and the West 1500–1850
HIST	0475	Religion and Culture in East Asia
HIST	0487	World War II in Asia
HIST	0500	Colonial Latin America
HIST	0501	Modern Latin America
HIST	0502	Afro-Latin America
HIST	0521	Caribbean History
HIST	0600	United States to 1877
HIST	0601	United States 1865–Present
HIST	0644	Religion and Politics in America
HIST	0663	20th-Century African American Women's History
HIST	0670	Afro-American History 1
HIST	0671	Afro-American History 2
HIST	0673	Jewish and Black History
HIST	0675	Religion in Early America
HIST	0676	Religion in Modern America
HIST	0678	United States and Holocaust
HIST	0685	United States Foreign Relations
HIST	0688	American Way of War
HIST	0751	Ancient Worlds
HIST	0755	Religion in Asia
HIST	0756	Introduction to Islamic Civilization
HIST	0788	Women and Men in Ancient Mediterranean
HIST	0789	Women and Men in Ancient Mediterranean—Writing Practicum
HIST	0795	History of Africa before 1800
HIST	1000	Writing Seminar for Majors
HIST	1001	Required Seminar for Majors
HIST	1005	Special Topics
HIST	1009	History through Archaeological Artifacts
HIST	1014	Comparative Witch Hunt
HIST	1015	UHC Comparative Witch Hunt

HIST	1016	The Irish in America
HIST	1042	Theory and Practice of Nationalism
HIST	1043	Revolutionary Social Movement
HIST	1044	Two Centuries of Democratization
HIST	1045	Socialism and Capitalism
HIST	1046	Nationalism
HIST	1060	The Global History of Piracy
HIST	1070	The Rise of the Modern Pan-Africanist Movement
HIST	1076	Comparative Slavery
HIST	1083	History of Sports
HIST	1084	Food and Culture
HIST	1086	Nuclear Age, Nuclear War
HIST	1088	Science and Religion—17th Century
HIST	1089	Knowledge and Power
HIST	1090	History of Medicine and Health Care
HIST	1108	Comparative European History
HIST	1109	France, Spain, and Italy in the 20th Century (UHC/WRIT)
HIST	1110	Medieval History 1
HIST	1111	Medieval History 2
HIST	1112	Medieval World
HIST	1114	A Time of Troubles: 1275–1525
HIST	1115	The West and the World
HIST	1116	Introduction to the Renaissance
HIST	1117	Renaissance and Reformation Europe
HIST	1120	British Isles
HIST	1121	Tudor England
HIST	1122	Stuart England
HIST	1123	Modern Britain
HIST	1124	Ireland
HIST	1125	Scotland
HIST	1128	Modern France 1: 1780–1880
HIST	1129	Modern France 2: 1880–1980
HIST	1131	Modern Germany: 1866–1945
HIST	1133	Is Fascism Back?
HIST	1145	Foundations of Capitalism
HIST	1146	Welfare State in Comparative Perspective
HIST	1147	History of Political Thought 1
HIST	1148	History of Political Thought 2
HIST	1149	History of Political Thought 3
HIST	1152	European Intellectual History 1: 1750–1930
HIST	1153	European Intellectual History 2: 1870–1940
HIST	1154	European Families
HIST	1155	European Unions 800–2000
HIST	1156	British Labor 1
HIST	1157	British Labor 2
HIST	1163	Women and the Law
HIST	1169	Approaches to Anti-Semitism
HIST	1172	Britain: The Contemporary Scene in Historical Perspective
HIST	1175	Xenophobia in Modern Europe
HIST	1182	Romantic Movements in 19th-Century Europe
HIST	1184	Astrology and Witchcraft
HIST	1190	Medieval Government and Society
HIST	1191	English Origins of American Law
HIST	1197	Black Death: Plague and History
HIST	1240	Political East Europe
HIST	1270	Modern Eastern European Jewry
HIST	1313	History of Russian Revolution
HIST	1314	USSR: 1918–1932
HIST	1315	Stalin
HIST	1325	(UHC) Russia and the West
HIST	1343	Contemporary Development in the USSR
HIST	1344	Russian Revolution Movements
HIST	1366	Soviet Cities: 1860–1980
HIST	1377	Soviet Jewry
HIST	1378	Russian Jewry
HIST	1380	Art and Society 19th-Century Russia
HIST	1390	Stalin and Western Historians
HIST	1420	Ancient China
HIST	1421	Medieval China
HIST	1422	Late Imperial China
HIST	1423	Modern China
HIST	1431	Traditional Japan
HIST	1432	The World of Japan
HIST	1433	Modern Japan
HIST	1447	Economic History of Japan
HIST	1460	History of Japanese Women
HIST	1470	Eurasian Currents
HIST	1475	East Asian Buddhism
HIST	1476	Chinese Religious Traditions
HIST	1477	Japanese Religious Traditions
HIST	1478	Confusianism: Basic Texts
HIST	1479	Law and Literature in China
HIST	1480	Chinese Thought
HIST	1481	(UHC) History of Chinese Thought
HIST	1482	Japanese Culture
HIST	1522	Brazil
HIST	1525	Mexico: Aztecs to the Present
HIST	1526	Cuba: Columbus to Castro
HIST	1527	Mexico and Cuba
HIST	1540	The Cuban Revolution
HIST	1545	The Rise and Fall of National Capitalism in Latin America
HIST	1550	The Tropics in Modern History
HIST	1560	Women in Latin American History
HIST	1585	U.S.-Latin American Relations
HIST	1586	Latin American Revolutions
HIST	1587	Central American Revolutions
HIST	1588	Democracy in 20th-Century Latin America
HIST	1610	United States Colonial History
HIST	1611	American Revolution: 1763–1791
HIST	1612	United States: 1789–1840
HIST	1614	Civil War History
HIST	1619	United States Since 1945
HIST	1621	History of the South through the 1880s
HIST	1625	History of the American Frontier
HIST	1626	History of the U.S. Landscape
HIST	1640	United States Political Party 1
HIST	1641	United States Political Party 2
HIST	1645	American Economic History
HIST	1646	Economic and Business History of the United States
HIST	1655	American Workers 19th Century
HIST	1656	American Workers 20th Century
HIST	1660	United States Women 1

HIST	1661	United States Women 2
HIST	1662	Topics in Women's History
HIST	1665	History of the American City
HIST	1668	History of Pittsburgh
HIST	1669	History of Black Pittsburgh
HIST	1670	19th-Century African American History
HIST	1671	The Black Middle Class
HIST	1674	Pride and Prejudice
HIST	1675	Ethnicity in American Religion
HIST	1676	Popular Religion in America
HIST	1677	Jews in the United States
HIST	1680	Cultural History of the United States 1830–1861
HIST	1681	Cultural History of the United States 1885–1905
HIST	1683	North American Indians: Traditional Culture
HIST	1684	Native Americans Today
HIST	1685	U.S. Popular Culture
HIST	1686	War and Military in the United States
HIST	1690	American Legal History
HIST	1695	Environmental Politics
HIST	1700	International Urbanism
HIST	1740	Meditative Traditions in East Asia: Chan/Zen Buddhism
HIST	1741	Popular Religion in a Changing Japan
HIST	1755	(UHC) Comparative View of Freedom
HIST	1756	Comparative Civilizations
HIST	1757	Religion in India 1
HIST	1758	Religion in India 2
HIST	1759	Jew in the Islamic World
HIST	1760	Medieval Jewish Civilization
HIST	1762	Religion and Politics in the Middle East
HIST	1763	Politics of the Contemporary Middle East
HIST	1764	Israel: State and Society 1948–1988
HIST	1765	Israel in the Biblical Age
HIST	1766	Modern Israel
HIST	1767	Modern Jewry
HIST	1768	Jewish-Christian Relations
HIST	1769	History of the Holocaust
HIST	1770	After the Holocaust
HIST	1772	Race, Caste, and Ethnicity in Global Perspective
HIST	1775	Origins of Christianity
HIST	1776	Varieties of Early Christianity
HIST	1781	Roman History
HIST	1782	Emergence of Greco-Roman Civilization
HIST	1783	Greek History
HIST	1784	Greek History/Writing Practicum
HIST	1785	Emergence Greco-Roman Civilization/Writing Practicum
HIST	1786	Roman History/Writing Practicum
HIST	1788	Alexander and the Hellenistic Age
HIST	1789	Law and Society in Greece and Rome
HIST	1790	Mediterranean World
HIST	1791	Jewish Culture in Medieval Spain
HIST	1796	History of Africa Since 1800
HIST	1900	History Internship
HIST	1901	Independent Study
HIST	1902	Writing: History Honors Seminar
HIST	1903	Honors Thesis/Majors
HIST	1904	Undergraduate Research

HISTORY AND PHILOSOPHY OF SCIENCE

HPS	0410	Einstein: Modern Science and Its Surprises
HPS	0419	Revolutions and Revolutionaries
HPS	0427	Myth and Science
HPS	0437	Darwinism and Its Critics
HPS	0515	Magic, Medicine, and Science
HPS	0517	Thinking about the Environment
HPS	0545	Space-Time-Matter: From Antiquity to the 20th Century
HPS	0546	Space-Time-Matter/Writing Practicum
HPS	0547	Space-Time-Matter/Writing Practicum
HPS	0605	The Nature of Emotions
HPS	0610	Statistics and Causal Reasoning
HPS	0611	Principles of Scientific Reasoning
HPS	0612	Mind and Medicine
HPS	0613	Morality and Medicine
HPS	0614	Mind and Medicine/Writing Practicum
HPS	0615	Mind and Medicine/Writing Practicum
HPS	0616	Artificial Intelligence and the Philosophy of Science
HPS	0620	Science and Religion
HPS	0621	Problem Solving: How Science Works
HPS	0623	Explanations of Humans and Society
HPS	0624	Explanations of Humans and Society/Writing Practicum
HPS	0625	Explanations of Humans and Society/Writing Practicum
HPS	0626	Development of Modern Biology
HPS	0628	Paradox
HPS	0630	Science and Pseudoscience
HPS	0633	Science, Philosophy, and Public Policy
HPS	0634	Science, Philosophy, and Public Policy/Writing Practicum
HPS	0635	Science, Philosophy, and Public Policy/Writing Practicum
HPS	0682	Freedom and Determinism
HPS	0685	Mathematics and Culture
HPS	1407	Einstein
HPS	1410	Change, Progress, and Ideology
HPS	1420	Paths of Inquiry
HPS	1429	History of Evolutionary Thought
HPS	1501	Ancient Scientific Astronomy
HPS	1502	Astrology in 17th-Century England
HPS	1508	Classics in the History of Science
HPS	1528	European Intellectual History 1: 1750–1930
HPS	1530	European Intellectual History 2: 1870–1940

HPS	1531	Man and the Cosmos in the European Renaissance
HPS	1551	History of Science 1
HPS	1552	History of Science 2
HPS	1553	Writing Workshop for HPS Majors
HPS	1600	Philosophy and the Rise of Modern Science
HPS	1605	Aesthetics and Science
HPS	1610	Philosophy of Anthropology
HPS	1612	Philosophy of 20th-Century Physics
HPS	1615	Philosophy of Social Science
HPS	1616	Artificial Intelligence and the Philosophy of Science
HPS	1620	Philosophy of Biology
HPS	1625	Philosophy of Medicine
HPS	1627	Living with Technology
HPS	1653	Introduction to Philosophy of Science
HPS	1680	Values and Science
HPS	1682	Freedom and Determinism
HPS	1690	Topics in Philosophy of Science
HPS	1702	Junior/Senior Seminar for HPS Majors
HPS	1703	Writing Workshop for HPS Majors
HPS	1800	Special Topics in History and Philosophy of Science
HPS	1901	Independent Study

FRENCH & ITALIAN LANGUAGES AND LITERATURES

ITAL	0001	Elementary Italian 1
ITAL	0002	Elementary Italian 2
ITAL	0003	Intermediate Italian 1
ITAL	0004	Intermediate Italian 2
ITAL	0007	Intensive Italian for Reading 1
ITAL	0008	Intensive Italian for Reading 2
ITAL	0031	UPMC Basic Italian 1
ITAL	0032	UPMC Basic Italian 2
ITAL	0033	UPMC Intermediate Italian 1
ITAL	0034	UPMC Intermediate Italian 2
ITAL	0050	Italian Conversation
ITAL	0060	Literary Italian 1
ITAL	0061	Literary Italian 2
ITAL	0080	Italian Cultural Heritage 1
ITAL	0081	Italian Cultural Heritage 2
ITAL	0086	Italian Cinema
ITAL	1030	Advanced Composition
ITAL	1031	Italian Phonetics
ITAL	1041	Italian Theatrical Workshop
ITAL	1059	Special Topics: Contemporary Italian Society
ITAL	1060	Special Topics
ITAL	1061	Dante 1
ITAL	1062	Dante 2
ITAL	1063	Petrarch and Boccaccio
ITAL	1064	Novel
ITAL	1065	Lyric Poetry
ITAL	1066	Epic Poetry
ITAL	1067	Italian Theater
ITAL	1068	Italian Novella
ITAL	1080	Masterpieces of Italian Prose
ITAL	1081	Dante's Divine Comedy
ITAL	1082	Italian Renaissance Literature
ITAL	1083	Modern Italian Literature
ITAL	1085	Dante, Petrarch, Boccaccio
ITAL	1086	Italian Theater (in English)
ITAL	1088	Topics in Italian American Studies
ITAL	1089	Special Topics
ITAL	1090	Introduction to Translation Studies 1
ITAL	1091	Introduction to Translation Studies 2
ITAL	1902	Directed Study
ITAL	1903	Honors Directed Research for Italian Majors
ITAL	1905	Internship in Italian

EAST ASIAN LANGUAGES & LITERATURES

JPNSE	0001	First Year Japanese 1
JPNSE	0002	First Year Japanese 2
JPNSE	0003	Second Year Japanese 1
JPNSE	0004	Second Year Japanese 2
JPNSE	0031	Elementary Japanese 1 for MBA
JPNSE	0032	Elementary Japanese 2 for MBA
JPNSE	0080	City Life and East Asian Culture
JPNSE	0081	East Asia in the World
JPNSE	0083	Introduction to Japanese Literature
JPNSE	1001	First Year Japanese 1
JPNSE	1002	First Year Japanese 2
JPNSE	1003	Second Year Japanese 1
JPNSE	1004	Second Year Japanese 2
JPNSE	1011	Basic Japanese Language 1
JPNSE	1012	Basic Japanese Language 2
JPNSE	1020	Third Year Japanese 1
JPNSE	1021	Third Year Japanese 2
JPNSE	1022	History of the Japanese Language
JPNSE	1023	Aspects of the Japanese Language
JPNSE	1024	Teaching Japanese as a Second Language
JPNSE	1025	Exploring the Japanese Language and Mind
JPNSE	1030	Readings in Japanese Literature
JPNSE	1032	Readings in Social Science
JPNSE	1035	Pragmatics of Japanese
JPNSE	1040	Introduction to Classical Japanese
JPNSE	1045	Language of Japanese Aesthetics
JPNSE	1050	Fourth Year Japanese 1
JPNSE	1051	Fourth Year Japanese 2
JPNSE	1056	Japanese Literature and the West
JPNSE	1057	Japanese Culture and Society through Cinema
JPNSE	1058	Westerns and Samurai Films
JPNSE	1059	Japanese Literature on Screen
JPNSE	1061	Intensive Japanese 1
JPNSE	1062	Intensive Japanese 2
JPNSE	1071	The World of Japan
JPNSE	1072	Writers and Thinkers
JPNSE	1080	Ghosts, Masks, and Actors
JPNSE	1081	Forms of Japanese Theatre
JPNSE	1085	Introduction to East Asian Cinema
JPNSE	1800	Special Topics
JPNSE	1901	Independent Study
JPNSE	1908	Directed Writing for Majors

JEWISH STUDIES

JS	0013	Elementary Hebrew 1
JS	0014	Elementary Hebrew 2
JS	0025	Intermediate Hebrew 3
JS	0026	Intermediate Hebrew 4

JS	0037	Advanced Hebrew Composition and Conversation 1
JS	0067	Family and the Bible
JS	0205	Introduction to Judaism
JS	0283	United States and the Holocaust
JS	0285	Jewish and Black History
JS	1065	Biblical Hebrew
JS	1100	Israel in the Biblical Age
JS	1214	Rabbinic Texts and Traditions
JS	1222	Jewish Mysticism
JS	1225	Jewish Culture in Medieval Spain
JS	1232	Modern Eastern European Jewry
JS	1230	Ashkenazi Jewry: Medieval Period
JS	1240	Sephardi Jewry: Medieval Period
JS	1250	Modern Jewry
JS	1252	History of the Holocaust
JS	1254	After the Holocaust
JS	1256	Modern Israel
JS	1257	Russian Jewry
JS	1260	Jews in the United States
JS	1266	Israel: State and Society 1948–1988
JS	1624	Women in Judaism
JS	1640	Jews in the Islamic World
JS	1644	Jewish-Christian Relations
JS	1646	Rabbinic Approaches to the Non-Jewish World
JS	1650	Approaches to Antisemitism
JS	1901	Independent Study

KOREAN

KOREAN	0070	The Work of Korea: The Past in the Present

LATIN

LATIN	0010	Beginning Latin 1
LATIN	0020	Beginning Latin 2
LATIN	0210	Intermediate Latin: Prose
LATIN	0220	Intermediate Latin: Verse
LATIN	1011	Beginning Latin 1
LATIN	1021	Beginning Latin 2
LATIN	1300	Latin Authors 1
LATIN	1301	Latin Authors 1: Writing Practicum
LATIN	1302	Latin Authors 2
LATIN	1303	Latin Authors 2: Writing Practicum
LATIN	1400	Latin Reading: Epic
LATIN	1416	Latin Reading: Historians
LATIN	1418	Latin Reading: Orators
LATIN	1700	Latin Prose Composition
LATIN	1902	Directed Study for Undergrads

LINGUISTICS

LING	0008	ESL Speaking and Listening
LING	0009	ESL Writing Advanced
LING	0010	ESL Reading and Vocabulary
LING	0018	ESL Oral TA/TF
LING	0080	Aspects of Language
LING	0085	Machine Aids to Translation
LING	0131	Arabic 1
LING	0132	Arabic 2
LING	0133	Arabic 3
LING	0134	Arabic 4
LING	0221	Irish Gaelic 1
LING	0222	Irish Gaelic 2
LING	0223	Irish Gaelic 3
LING	0224	Irish Gaelic 4
LING	0231	Greek (Modern) 1
LING	0232	Greek (Modern) 2
LING	0233	Greek (Modern) 3
LING	0234	Greek (Modern) 4
LING	0281	Hindi 1
LING	0282	Hindi 2
LING	0283	Hindi 3
LING	0284	Hindi 4
LING	0291	Hungarian 1
LING	0292	Hungarian 2
LING	0293	Hungarian 3
LING	0294	Hungarian 4
LING	0321	Indonesian 1
LING	0322	Indonesian 2
LING	0323	Indonesian 3
LING	0324	Indonesian 4
LING	0341	Korean 1
LING	0342	Korean 2
LING	0343	Korean 3
LING	0344	Korean 4
LING	0441	Quechua 1
LING	0442	Quechua 2
LING	0443	Quechua 3
LING	0444	Quechua 4
LING	0471	American Sign Language 1
LING	0472	American Sign Language 2
LING	0473	American Sign Language 3
LING	0474	American Sign Language 4
LING	0501	Swahili 1
LING	0502	Swahili 2
LING	0503	Swahili 3
LING	0504	Swahili 4
LING	0531	Tagalog 1
LING	0532	Tagalog 2
LING	0533	Tagalog 3
LING	0534	Tagalog 4
LING	0581	Vietnamese 1
LING	0582	Vietnamese 2
LING	0583	Vietnamese 3
LING	0584	Vietnamese 4
LING	0621	Aymara 1
LING	0622	Aymara 2
LING	0623	Aymara 3
LING	0624	Aymara 4
LING	0641	Serbian 1
LING	0642	Serbian 2
LING	0643	Serbian 3
LING	0644	Serbian 4
LING	0645	Serbian 5
LING	0646	Serbian 6
LING	0971	Scottish Gaelic 1
LING	0972	Scottish Gaelic 2
LING	0973	Scottish Gaelic 3
LING	0974	Scottish Gaelic 4
LING	1235	Language, Gender, and Society
LING	1240	Language and the Law
LING	1253	Pidgin and Creole Languages
LING	1263	Cross-Cultural Communication
LING	1267	Aspects of Sociolinguistics
LING	1440	Language and Prehistory in Mesoamerica

LING	1443	American Indian Languages
LING	1444	Gypsy Language and Culture
LING	1448	Aztec Language and Culture
LING	1466	Topics in Anthropological Linguistics
LING	1578	Phonetics and Phonemics
LING	1579	Phonology
LING	1682	Introduction to Semantic Theory
LING	1720	Structures of Sign Languages
LING	1738	Linguistic Structures of English
LING	1773	Morphology
LING	1777	Syntactic Theory
LING	1860	Introduction to Historical Linguistics
LING	1901	Independent Study
LING	1930	Introduction to Applied Linguistics
LING	1950	Introduction to Linguistics
LING	1951	Languages of the World
LING	1952	Languages of Europe

MATHEMATICS

MATH	0010	College Algebra Part 1
MATH	0020	College Algebra Part 2
MATH	0025	Applied College Algebra
MATH	0031	Algebra
MATH	0032	Trigonometry and Functions
MATH	0100	Preparation for Business Calculus
MATH	0120	Business Calculus
MATH	0125	Calculus for Business 1
MATH	0126	Calculus for Business 2
MATH	0200	Preparation for Scientific Calculus
MATH	0220	Analytic Geometry and Calculus 1
MATH	0230	Analytic Geometry and Calculus 2
MATH	0235	Honors 1—Variable Calculus
MATH	0240	Analytic Geometry and Calculus 3
MATH	0250	Matrix Theory and Differential Equations
MATH	0280	Introduction to Matrices and Linear Algebra
MATH	0400	Discrete Mathematical Structures
MATH	0413	Introduction to Theoretical Mathematics
MATH	0420	Introduction to Theory 1—Variable Calculus
MATH	0430	Introduction to Abstract Algebraic Systems
MATH	0450	Introduction to Analysis
MATH	0460	Introduction to Cryptology
MATH	1010	Putnam Seminar
MATH	1020	Applied Elementary Number Theory
MATH	1050	Combinatorial Mathematics
MATH	1070	Numerical Mathematical Analysis
MATH	1080	Numerical Linear Algebra
MATH	1100	Linear Programming
MATH	1110	Industrial Mathematics
MATH	1180	Linear Algebra 1
MATH	1185	Honors Linear Algebra
MATH	1240	Linear Algebra 2
MATH	1250	Abstract Algebra
MATH	1270	Ordinary Differential Equations 1
MATH	1280	Ordinary Differential Equations 2
MATH	1290	Topics in Geometry
MATH	1310	Graph Theory
MATH	1330	Projective Geometry
MATH	1350	Introduction to Differential Geometry
MATH	1360	Modeling in Applied Math 1
MATH	1370	Modeling in Applied Math 2
MATH	1410	Introduction to Foundations of Mathematics
MATH	1420	Foundations of Mathematics 2
MATH	1470	Partial Differential Equations 1
MATH	1480	Partial Differential Equations 2
MATH	1530	Advanced Calculus 1
MATH	1540	Advanced Calculus 2
MATH	1550	Vector Analysis and Applications
MATH	1560	Complex Variables and Applications
MATH	1570	Transform Methods in Applied Math
MATH	1700	Introduction to Topology
MATH	1800	Advanced Topics in Mathematics
MATH	1801	Advanced Topics in Mathematics
MATH	1900	Internship
MATH	1902	Directed Study

MEDIEVAL & RENAISSANCE STUDIES

M&RST	0025	Inquisitions
M&RST	0070	Medieval Artistic Patronage
M&RST	1001	Medieval World
M&RST	1002	Introduction to the Renaissance
M&RST	1003	Marie De France
M&RST	1010	Man and Cosmos in the Renaissance
M&RST	1011	Medieval Narrative, Epic, and Romance
M&RST	1019	The Middle Ages: A Living Legacy
M&RST	1022	Medieval Latin
M&RST	1052	Arthurian Legend and Cultural Change
M&RST	1076	Palaeography
M&RST	1119	Monks and Knights
M&RST	1200	Special Topics—Medieval

MUSIC

MUSIC	0111	Keyboard Harmony
MUSIC	0121	Basic Musicianship: Class Piano
MUSIC	0122	Basic Musicianship: Class Guitar
MUSIC	0131	Preparation for Music Theory
MUSIC	0211	Introduction to Western Art Music
MUSIC	0222	History of Western Music to 1750
MUSIC	0224	History of Western Music since 1750
MUSIC	0232	History of Opera
MUSIC	0234	History of the Symphony
MUSIC	0236	History of the Concerto
MUSIC	0242	Major Composer
MUSIC	0311	Introduction to World Music
MUSIC	0411	Theory 1
MUSIC	0412	Musicianship 1
MUSIC	0415	Theory 2
MUSIC	0416	Musicianship 2
MUSIC	0417	Theory 3
MUSIC	0418	Musicianship 3
MUSIC	0419	Theory 4
MUSIC	0420	Musicianship 4
MUSIC	0510	Voice–Jazz
MUSIC	0511	Voice
MUSIC	0512	Piano
MUSIC	0513	Organ
MUSIC	0514	Harpsichord
MUSIC	0515	Violin

MUSIC	0516	Viola
MUSIC	0517	Violoncello
MUSIC	0518	Double Bass
MUSIC	0519	Flute
MUSIC	0520	Oboe
MUSIC	0521	Clarinet
MUSIC	0522	Saxophone
MUSIC	0523	French Horn
MUSIC	0524	Trumpet
MUSIC	0525	Bassoon
MUSIC	0526	Trombone
MUSIC	0527	Percussion
MUSIC	0528	Jazz–Studio Set Drumming
MUSIC	0529	Guitar
MUSIC	0530	Jazz Guitar
MUSIC	0533	Jazz Piano
MUSIC	0550	Other Instruments
MUSIC	0611	Collegiate Chorale
MUSIC	0612	Heinz Chapel Choir
MUSIC	0613	University Glee Club
MUSIC	0614	Women's Chorale
MUSIC	0620	University Chamber Orchestra
MUSIC	0630	Marching Band
MUSIC	0631	Concert Band
MUSIC	0640	Jazz Ensemble
MUSIC	0660	African Drumming Ensemble
MUSIC	0670	Guitar Ensemble
MUSIC	0671	Percussion Ensemble
MUSIC	0672	Chamber Music
MUSIC	0680	Chinese Music Ensemble
MUSIC	0690	Javanese Gamelan Ensemble
MUSIC	0711	History of Jazz
MUSIC	1222	Medieval and Early Renaissance
MUSIC	1224	Later Renaissance and Baroque
MUSIC	1226	Classical and Early Romantic
MUSIC	1228	Late Romantic and Early 20th Century
MUSIC	1230	Music since 1945
MUSIC	1242	Major Composer
MUSIC	1252	History of Performance Styles
MUSIC	1320	Music in North America
MUSIC	1326	Afro-American Music in the United States
MUSIC	1332	Music in Latin America
MUSIC	1340	Music in Africa
MUSIC	1352	Music in Southeast Asia
MUSIC	1354	Music in East Asia
MUSIC	1396	Music in Society
MUSIC	1421	Composition 1
MUSIC	1422	Composition 2
MUSIC	1431	Instrumentation and Orchestration
MUSIC	1441	Electronic and Computer Music 1
MUSIC	1442	Electronic and Computer Music 2
MUSIC	1562	Piano Literature
MUSIC	1731	Jazz Arranging 1
MUSIC	1732	Jazz Arranging 2
MUSIC	1741	Jazz Improvisation 1
MUSIC	1742	Jazz Improvisation 2
MUSIC	1903	Special Topics—Directed Research
MUSIC	1904	Senior Seminar

NEUROSCIENCE

NROSCI	0080	Brain and Behavior
NROSCI	0081	Drugs and Behavior
NROSCI	0082	UHC Drugs and Behavior
NROSCI	1000	Introduction to Neuroscience
NROSCI	1003	UHC Introduction to Neuroscience
NROSCI	1011	Functional Neuroanatomy
NROSCI	1012	Neurophysiology
NROSCI	1017	Synaptic Transmission
NROSCI	1020	Homeostasis
NROSCI	1022	Hormones and Brain Function
NROSCI	1025	Biological Clocks
NROSCI	1030	Psychiatric Disorders and Brain Function
NROSCI	1031	UHC Psychiatric Disorders and Brain Function
NROSCI	1032	Functional Organization of the Human Nervous System
NROSCI	1033	Neuronal Signal Transduction
NROSCI	1034	Neural Basis of Cognition
NROSCI	1035	Control of Movement
NROSCI	1040	Biological Bases of Learning and Memory
NROSCI	1041	Developmental Neuroscience
NROSCI	1045	Topics in Neuroscience
NROSCI	1046	UHC Topics in Neuroscience
NROSCI	1052	UHC Neurophysiology Laboratory
NROSCI	1070	UHC Human Physiology
NROSCI	1097	Undergraduate Teaching Experience
NROSCI	1111	UHC Functional Neuroanatomy Honors Practicum
NROSCI	1134	UHC Neural Basis of Cognition
NROSCI	1250	Human Physiology
NROSCI	1800	Neuroscience Writing Practicum 1
NROSCI	1801	Neuroscience Writing Practicum 2
NROSCI	1901	Independent Study
NROSCI	1961	Thesis Research
NROSCI	1962	Thesis Research Writing Practicum

PHILOSOPHY

PHIL	0010	Concepts of Human Nature
PHIL	0040	Computers and Culture
PHIL	0080	Introduction to Philosophical Problems
PHIL	0200	History of Ancient Philosophy
PHIL	0210	History of Modern Philosophy
PHIL	0220	Introduction to Existentialism
PHIL	0230	Philosophy and Film
PHIL	0300	Introduction to Ethics
PHIL	0320	Social Philosophy
PHIL	0330	Political Philosophy
PHIL	0350	Philosophy and Public Issues
PHIL	0360	Morality and Medicine
PHIL	0380	Introduction to Feminist Thought
PHIL	0470	Philosophy of Religion
PHIL	0473	Philosophy of Religion
PHIL	0500	Introduction to Logic
PHIL	0810	Freshman Seminar
PHIL	0820	Sophomore Honors Seminar—Majors
PHIL	0830	Philosophy for Engineers
PHIL	0850	Philosophy and Liberal Democracy
PHIL	0890	Topics in Philosophy
PHIL	1010	Presocratic Philosophy

PHIL	1020	Plato
PHIL	1040	Aristotle
PHIL	1060	Hellenistic Philosophy
PHIL	1070	Topics in Ancient Philosophy
PHIL	1080	Medieval Philosophy
PHIL	1110	Rationalism
PHIL	1140	Empiricism
PHIL	1170	Kant
PHIL	1180	19th-Century Philosophy
PHIL	1195	Nietzsche
PHIL	1200	20th-Century Analytic Philosophy
PHIL	1220	20th-Century Continental Philosophy
PHIL	1225	Wittgenstein
PHIL	1240	American Pragmatism
PHIL	1290	Topics in History of Philosophy
PHIL	1300	Ethical Theory
PHIL	1310	History of Ethics
PHIL	1320	Topics in Social Philosophy
PHIL	1330	Topics in Political Philosophy
PHIL	1340	Feminist Philosophy
PHIL	1350	Marxist Philosophy
PHIL	1360	Biomedical Ethics
PHIL	1370	Philosophy of Art
PHIL	1380	Business Ethics
PHIL	1390	Philosophy of Law
PHIL	1420	Philosophy of Language
PHIL	1440	Philosophy of Mind
PHIL	1455	Philosophy of the Cognitive and Neural Sciences
PHIL	1460	Theory of Knowledge
PHIL	1470	Philosophy of Religion
PHIL	1480	Metaphysics
PHIL	1490	Topics in Systematic Philosophy
PHIL	1500	Symbolic Logic
PHIL	1520	Logical Metatheory
PHIL	1530	Set Theory
PHIL	1540	Computational Theory
PHIL	1550	Probability and Induction
PHIL	1580	Philosophy of Mathematics
PHIL	1600	Philosophy and the Rise of Modern Science
PHIL	1610	Introduction to Philosophy of Science
PHIL	1612	Philosophy of 20th-Century Physics
PHIL	1620	Philosophy of Social Science
PHIL	1630	Philosophy of Anthropology
PHIL	1640	Philosophy of Psychology
PHIL	1650	Philosophy of Biology
PHIL	1682	Freedom and Determinism
PHIL	1690	Topics in Philosophy of Science
PHIL	1800	Philosophy and Animals
PHIL	1840	Science and Religion
PHIL	1890	Issues in Philosophy (Various)
PHIL	1902	Directed Study
PHIL	1903	Directed Research
PHIL	1940	Honors Thesis 1
PHIL	1941	Honors Thesis 2

PHYSICS & ASTRONOMY

PHYS	0081	Space and Time, Light and Matter
PHYS	0082	Science of Musical Sounds
PHYS	0087	Nuclear Science and Society
PHYS	0089	Physics and Science Fiction
PHYS	0110	Introduction to Physics 1
PHYS	0111	Introduction to Physics 2
PHYS	0160	Intermediate Electricity/Magnetism
PHYS	0167	Undergraduate Seminar
PHYS	0174	Basic Physics for Science and Engineering 1
PHYS	0175	Basic Physics for Science and Engineering 2
PHYS	0177	Photonics Seminar
PHYS	0212	Introduction to Laboratory Physics
PHYS	0219	Basic Lab Physics for Science and Engineering
PHYS	0368	Wave Motion and Optics
PHYS	0475	UHC Introduction to Physics for Science and Engineering 1
PHYS	0476	UHC Introduction to Physics for Science and Engineering 2
PHYS	0577	Modern Physics Measurements
PHYS	0668	Wave Motion and Optics/Writing Practicum
PHYS	0850	Natural Sciences 1
PHYS	0851	Natural Sciences 2
PHYS	1119	Principles of Modern Physics 1
PHYS	1120	Principles of Modern Physics 2
PHYS	1134	History of Modern Physics
PHYS	1141	Thermodynamics and Statistical Mechanics
PHYS	1150	Mechanics
PHYS	1151	Computational Methods in Physics
PHYS	1160	Photonics Theory 1
PHYS	1161	Photonics Theory 2
PHYS	1170	Introduction to Quantum Mechanics 1
PHYS	1171	Introduction to Quantum Mechanics 2
PHYS	1172	Electromagnetic Theory
PHYS	1173	Mathematical Methods in Physics
PHYS	1225	Analog and Digital Electronics
PHYS	1226	Modern Physics Laboratory
PHYS	1626	Modern Physics Lab/Writing Practicum
PHYS	1900	Internship
PHYS	1901	Independent Study
PHYS	1902	Directed Reading
PHYS	1903	Directed Research

POLISH

POLISH	0010	Elementary Polish 1
POLISH	0020	Elementary Polish 2
POLISH	0030	Intermediate Polish 3
POLISH	0040	Intermediate Polish 4
POLISH	0210	Intensive Beginning Polish
POLISH	0220	Intensive Intermediate Polish
POLISH	1260	Survey of Polish Literature and Culture
POLISH	1280	Modern Polish Literature
POLISH	1901	Independent Study

HISPANIC LANGUAGES & LITERATURES

PORT	0001	Elementary Portuguese 1
PORT	0002	Elementary Portuguese 2
PORT	0003	Intermediate Portuguese 3
PORT	0004	Intermediate Portuguese 4
PORT	0005	Intensive Portuguese
PORT	0020	Conversation

PORT	0025	Grammar and Composition
PORT	0051	Brazilian Civilization
PORT	1001	Elementary Portuguese 1
PORT	1002	Elementary Portuguese 2
PORT	1003	Intermediate Portuguese 3
PORT	1004	Intermediate Portuguese 4
PORT	1005	Intensive Portuguese
PORT	1010	Portuguese for Spanish Speakers 1
PORT	1052	Luso-Brazilian Literature
PORT	1053	Luso-Brazilian Topics
PORT	1902	Directed Study

POLITICAL SCIENCE

PS	0200	American Political Process
PS	0234	Topics in American Elections
PS	0300	Comparative Politics
PS	0311	Modern East Asia: Politics, Society, Economy
PS	0312	(Conflicts in) Contemporary Europe
PS	0500	World Politics
PS	0600	Political Theory and Analysis
PS	0650	Politics and Liberal Democracy
PS	1000	Honors Thesis—Majors
PS	1201	Constitution and Civil Liberties
PS	1202	American Constitutional Law
PS	1203	Judicial Politics
PS	1204	Women in Politics
PS	1205	Ethnic and Racial Politics
PS	1211	Legislative Process
PS	1212	American Presidency
PS	1213	Law and Politics
PS	1230	Interest Group Politics
PS	1231	Political Parties and Elections
PS	1232	Political Attitudes and Public Opinion
PS	1233	Political Psychology
PS	1234	Electoral Behavior and Democratic Process
PS	1235	Media and Politics
PS	1241	Public Administration and Political Systems
PS	1242	Intergovernmental Relations
PS	1243	Political Corruption
PS	1251	Urban Government
PS	1252	State Government
PS	1261	American Public Policy
PS	1262	Health Policy in the United States
PS	1263	Governments in the Economy
PS	1264	Problems in Public Management
PS	1265	Public Policy Implementation
PS	1267	Environmental Politics and Policy
PS	1281	Seminar American Politics
PS	1301	Theories and Concepts in Comparative Government
PS	1302	Political Development
PS	1303	Movement Politics
PS	1311	Western European Government and Politics
PS	1312	British Government and Politics
PS	1313	French Government and Politics
PS	1314	German Government and Politics
PS	1315	Italian Government and Politics
PS	1316	Scandinavian Government and Politics
PS	1317	Politics of the European Union
PS	1321	Latin American Politics
PS	1322	Latin American Political Development
PS	1326	The Politics of Revolution
PS	1328	Comparative and Development Administration
PS	1331	Government and Politics of Southeast Asia
PS	1332	Government and Politics in Contemporary China
PS	1333	Government and Politics of Japan
PS	1334	Vietnam War
PS	1335	The Political Economy of Japan: Government, Business, and Trade
PS	1336	Contemporary Chinese Politics, Society, and Economy
PS	1341	Government and Politics of the USSR and the Russian Federation
PS	1342	Government and Politics of East Europe
PS	1343	Comparative Socialist Political Systems
PS	1346	Political East Europe
PS	1347	(Conflicts in) Contemporary Europe
PS	1348	Xenophobia in Modern Europe
PS	1349	The Transatlantic Marketplace & Global Political Economy
PS	1350	Russia, the CIS, and the Expanding European Union
PS	1351	Government and Politics of the Middle East
PS	1352	Introduction to African Politics
PS	1353	African Liberation Movements
PS	1361	Comparative Political Party Systems
PS	1362	Comparative Urban Government
PS	1363	Globalization and Law
PS	1370	Special Topics
PS	1371	Elites in Modern Society
PS	1372	European Environmental Policy Making
PS	1373	Welfare State in Comparative Prospective
PS	1374	Politics of Global Inequality
PS	1375	Religion and Politics
PS	1376	Religion and Politics in the Middle East
PS	1377	American Political Thought
PS	1378	Two Centuries of Democratization
PS	1379	Is Fascism Back?
PS	1381	Comparative Government Seminar
PS	1382	Contemporary Developments in the USSR
PS	1383	Honors Seminar on Contemporary Middle East
PS	1390	Studying International Development through Service Learning
PS	1501	Theory of International Relations
PS	1502	International Law and Problems of World Order

PS	1503	International Organization
PS	1504	Nationalism
PS	1509	Conflict and War Theory
PS	1510	The Cold War: The Soviet Union and the West
PS	1511	American Foreign Policy
PS	1512	Europe after the Cold War: Cooperation and Conflict
PS	1513	Foreign Policies in a Changing World
PS	1514	Political Strategy in International Relations
PS	1516	Transnational Politics
PS	1521	Eastern Europe in World Politics
PS	1522	Latin America in World Politics
PS	1523	East Asia in World Politics
PS	1530	New International Relations of Europe
PS	1531	National Security Policy
PS	1532	United States National Security
PS	1533	Political Violence and Revolution
PS	1541	Politics of Global Economic Relations
PS	1542	Global Environmental Politics
PS	1543	Globalization and International Politics
PS	1544	Political Economy of American Trade Policy
PS	1551	Cognitive Psychology and International Relations
PS	1581	Seminar in International Relations
PS	1601	Political Theory: Plato–Machiavelli
PS	1602	Political Theory: Machiavelli–Rousseau
PS	1603	Contemporary Political Thought
PS	1604	European Social Thought and Political Practice
PS	1605	Modern Political Ideologies
PS	1607	American Political Thought
PS	1610	American Political Theory
PS	1611	Liberalism and Democracy
PS	1612	Marxism
PS	1613	Human Nature
PS	1614	Theories of Justice
PS	1622	Women and Political Theory
PS	1623	Psychology and Politics
PS	1629	Topics in Political Theory
PS	1636	Politics through Film
PS	1681	Seminar in Political Theory
PS	1682	Politics and Economics of Public Policy
PS	1701	Field Methods Political Research
PS	1702	Analysis of Political Variables
PS	1710	Formal Political Analysis
PS	1900	Internship
PS	1901	Independent Study
PS	1902	Directed Reading
PS	1903	Directed Research
PS	1910	Politics Institute Internship
PS	1911	Politics Institute Internship Seminar

PSYCHOLOGY

PSY	0005	Introduction to Cognitive Science
PSY	0010	Introduction to Psychology
PSY	0012	Foundations of Psychology
PSY	0035	Research Methods
PSY	0105	Introduction to Social Psychology
PSY	0160	Psychology of Personality
PSY	0182	Law and Social Psychology
PSY	0184	Psychology of Gender
PSY	0310	Developmental Psychology
PSY	0315	Comparative Animal Behavior
PSY	0405	Learning and Motivation
PSY	0420	Human Cognition and Learning
PSY	0505	Introduction to Biopsychology
PSY	0510	Sensation and Perception
PSY	0680	Introduction to Industrial/Organizational Psychology
PSY	1005	Statistical Analysis I/Advanced Statistics Undergraduate
PSY	1025	Tests and Measurement
PSY	1050	Topics in Psychology
PSY	1052	Topics in Clinical Psychology
PSY	1053	Topics in Developmental Psychology
PSY	1054	Topics in Cognitive Psychology
PSY	1057	Topics in Biopsychology
PSY	1058	Topics in Industrial/Organizational Psychology
PSY	1075	History and Systems of Psychology
PSY	1110	Social Psychological Research
PSY	1112	Psychological Aspects of Human Sexuality
PSY	1115	Social Psychology and Criminal Justice
PSY	1125	Attitudes and Attitude Change
PSY	1130	Special Topics on Psychology of Gender
PSY	1140	Social Motivation
PSY	1150	Social Psychology of Social Control
PSY	1155	Psychology of Small Groups
PSY	1160	Topics in Social Psychology
PSY	1205	Abnormal Psychology
PSY	1210	Introduction to Clinical Psychology
PSY	1215	Health Psychology
PSY	1225	Psychology of Emotion
PSY	1230	Psychology of Death and Dying
PSY	1235	Alcohol Use and Abuse
PSY	1255	Principles of Behavior Modification
PSY	1270	Child Psychopathology
PSY	1305	Experimental Child Psychology
PSY	1310	Child Development and Social Policy
PSY	1315	Developmental Psychology: Infancy
PSY	1320	Developmental Psychology: Language
PSY	1325	Developmental Psychology: Social Development
PSY	1330	Developmental Psychology: Cognitive Development
PSY	1335	Developmental Psychology: Perceptual Development
PSY	1355	Adolescence
PSY	1360	Psychology of Black Children
PSY	1435	Behavior Control in Society
PSY	1450	Problem Solving and Reasoning
PSY	1455	Psychology of Language and Reading

PSY	1460	Human Cognition: Learning and Memory
PSY	1465	Cognitive Psychology and International Relations
PSY	1470	Cognition and the Brain
PSY	1480	Motivation of Behavior
PSY	1514	Evolutionary Psychology
PSY	1520	Psychoneuroimmunology
PSY	1635	Organizational Psychology
PSY	1900	Supervised Field Placement
PSY	1902	Directed Individual Reading
PSY	1903	Directed Individual Research
PSY	1950	Psychology Senior Seminar
PSY	1973	Honors Directed Research
PSY	1975	Honors Thesis/Majors

RELIGIOUS STUDIES

RELGST	0025	Major Biblical Themes
RELGST	0045	Hebrew Bible
RELGST	0055	Prophets
RELGST	0067	Family and the Bible
RELGST	0083	Mythology in the Ancient World
RELGST	0115	Bible as Literature
RELGST	0175	Christianity
RELGST	0205	Introduction to Judaism
RELGST	0225	Topics in Medieval Jewish History
RELGST	0255	Modern Judaism
RELGST	0265	Modern Jewish Thinkers
RELGST	0283	United States and the Holocaust
RELGST	0285	Jewish and Black History
RELGST	0305	Classics of Christian Thought
RELGST	0315	Ethics in the Christian Tradition
RELGST	0335	Inquisitions
RELGST	0365	Kant
RELGST	0375	Kierkegaard
RELGST	0405	Religion in Early America
RELGST	0415	Religion in Modern America
RELGST	0417	The Black Church
RELGST	0435	Religious Themes in American Literature
RELGST	0437	Revival in American Religion
RELGST	0439	Religion and Politics in America
RELGST	0455	Introduction to Islamic Civilization
RELGST	0505	Religion in Asia
RELGST	0515	Religion and Civilization in South Asia
RELGST	0517	Hindu Art
RELGST	0519	Buddhist Art
RELGST	0525	Religion and Culture in East Asia
RELGST	0535	Southeast Asian Societies
RELGST	0601	Varieties of Religious Tradition
RELGST	0625	Death, Dying, and Immortality
RELGST	0705	Approaches to the Study of Religion
RELGST	0710	Sociology of Religion
RELGST	0715	Philosophy of Religion
RELGST	0725	Independence: God, Self, and Others
RELGST	0735	Wisdom
RELGST	0805	Professions and the Dying Patient
RELGST	1100	Israel in the Biblical Age
RELGST	1110	Special Topics: Ancient
RELGST	1120	Origins of Christianity
RELGST	1130	Varieties of Early Christianity
RELGST	1132	Paul
RELGST	1135	Orthodox Christianity
RELGST	1140	Dualism in the Ancient World
RELGST	1144	Classical Mythology and Literature
RELGST	1150	Body and Society in Late Antiquity
RELGST	1210	Classical Judaism
RELGST	1214	Rabbinic Texts and Traditions
RELGST	1220	Medieval Jewish Civilizations
RELGST	1222	Jewish Mysticism
RELGST	1225	Jewish Culture in Medieval Spain
RELGST	1230	Ashkenazi Jewry—Medieval Period
RELGST	1232	Modern Eastern European Jewry
RELGST	1240	Sephardi Jewry—Medieval Period
RELGST	1250	Modern Jewry
RELGST	1252	History of the Holocaust
RELGST	1254	After the Holocaust
RELGST	1256	Modern Israel
RELGST	1257	Russian Jewry
RELGST	1258	Soviet Jewry
RELGST	1260	Jews in the United States
RELGST	1266	Israel: State and Society 1948–1988
RELGST	1270	Modern Jewish Thought
RELGST	1274	Modern Jewish Writers
RELGST	1320	Medieval History 1
RELGST	1330	Medieval History 2
RELGST	1338	Medieval World
RELGST	1342	Religious Issues of the Reformation
RELGST	1360	Introduction to the Renaissance
RELGST	1362	Man and Cosmos in the Renaissance
RELGST	1364	Science and Religion in the 17th Century
RELGST	1366	Astrology and Witchcraft
RELGST	1370	Religion in the Modern Western World
RELGST	1400	Religion and Culture in America—Contemporary
RELGST	1410	Religion in American Thought
RELGST	1412	Ethnicity in American Religion
RELGST	1414	Evangelical Traditions in America
RELGST	1420	Religion and Politics in Latin America
RELGST	1424	Liberation Theology
RELGST	1425	Popular Religion in America
RELGST	1426	Popular Religious Traditions in Latin America
RELGST	1438	Religion and Politics
RELGST	1440	Religion and Politics in the Middle East
RELGST	1454	Islamic Thought
RELGST	1466	Sociology of Islam
RELGST	1500	Religion in India 1
RELGST	1510	Religion in India 2
RELGST	1512	Sanskrit 1
RELGST	1514	Sanskrit 2
RELGST	1516	Temple, Icon, and Deity in India
RELGST	1520	Buddhist Civilization
RELGST	1530	Topics in Buddhist Civilization
RELGST	1540	Saints East and West
RELGST	1550	East Asian Buddhism
RELGST	1552	Meditative Traditions in East Asia: Chan/Zen Buddhism
RELGST	1560	Chinese Religious Traditions
RELGST	1562	Confucianism: Basic Texts

RELGST	1570	Japanese Religion Traditions
RELGST	1572	Popular Religion in a Changing Japan
RELGST	1610	Myth, Symbol, and Ritual
RELGST	1620	Women in Religion
RELGST	1624	Women in Judaism
RELGST	1630	Ritual Process
RELGST	1640	Jews in the Islamic World
RELGST	1644	Jewish-Christian Relations
RELGST	1646	Rabbinic Approaches to the Non-Jewish World
RELGST	1650	Approaches to Anti-Semitism
RELGST	1680	Readings in Jewish Historiography
RELGST	1710	Perspectives on Religion
RELGST	1720	Religion and Culture
RELGST	1730	Problems in Philosophy of Religion
RELGST	1740	Meaning, Mystery, and Paradox
RELGST	1750	Psychology of Religion
RELGST	1760	Religion and Rationality
RELGST	1900	Internship
RELGST	1901	Independent Study
RELGST	1902	Directed Study—Undergraduate
RELGST	1903	Directed Research—Undergraduate

SLAVIC LANGUAGES & LITERATURES

RUSS	0010	Elementary Russian 1
RUSS	0020	Elementary Russian 2
RUSS	0030	Intermediate Russian 1
RUSS	0040	Intermediate Russian 2
RUSS	0090	Russian Fairy Tales
RUSS	0110	Russian Conversation Practice
RUSS	0210	Intensive Beginning Russian
RUSS	0220	Intensive Intermediate Russian
RUSS	0230	Intensive Advanced Russian
RUSS	0240	Intensive Fourth Year Russian
RUSS	0330	Intermediate Conversation
RUSS	0325	The Russian Short Story in Context
RUSS	0400	Advanced Russian 1
RUSS	0410	Advanced Russian 2
RUSS	0420	Russian Newspapers and Magazines
RUSS	0430	Readings in Russian Literature
RUSS	0450	Intermediate Conversation
RUSS	0590	Formative Masterpieces: Russia 19th Century
RUSS	0600	Russia
RUSS	0800	Masterpieces of 19th-Century Russian Literature
RUSS	0810	Masterpieces of 20th-Century Russian Literature
RUSS	0811	Madness and Madmen in Russian Culture
RUSS	0850	Early Russian Culture
RUSS	0860	Modern Russian Culture
RUSS	0870	History of Russian Film 1
RUSS	0871	History of Russian Film 2
RUSS	1200	Russian Women's Writing
RUSS	1202	Dostoevsky: The Major Novels
RUSS	1203	Tolstoy: The Major Novels
RUSS	1204	Dostoevsky, Tolstoy, Turgenev
RUSS	1302	Gogol
RUSS	1303	Turgenev
RUSS	1306	Dostoevsky
RUSS	1307	Chekhov
RUSS	1400	Morphology of Modern Russian
RUSS	1410	Advanced Russian Syntax
RUSS	1420	Fourth Year Russian 1
RUSS	1430	Fourth Year Russian 2
RUSS	1440	Russian Prose Translation
RUSS	1450	Advanced Russian Conversation
RUSS	1490	Russian Listening Comprehension
RUSS	1491	Listening Comprehension: Soviet TV
RUSS	1500	History of Russian Literature 1
RUSS	1510	History of Russian Literature 2
RUSS	1600	Russian Novel
RUSS	1700	Contemporary Russian Literature
RUSS	1710	Russian Short Story
RUSS	1771	History of Russian Cinema
RUSS	1772	Soviet Media Under Glasnost
RUSS	1775	New Russian Media
RUSS	1820	Literary Analysis
RUSS	1900	Russian Internship
RUSS	1901	Independent Study

SLAVIC LANGUAGES & LITERATURES

SERCRO	0210	Intensive Beginning Croatian
SERCRO	0211	Intensive Beginning Serbian
SERCRO	0220	Intensive Intermediate Serbian
SERCRO	0221	Intensive Intermediate Croatian
SERCRO	1901	Independent Study

SLAVIC LANGUAGES & LITERATURES

SLAV	0211	Intensive Beginning Hungarian
SLAV	0212	Intensive Beginning Czech
SLAV	0213	Intensive Beginning Bulgarian
SLAV	0214	Intensive Beginning Macedonian
SLAV	0215	Intensive Beginning Romanian
SLAV	0325	The Short Story in a Polish Context
SLAV	0660	Sci-Fi: East and West
SLAV	0880	Vampire: Blood and Empire
SLAV	1840	Topics in Slavic Literatures
SLAV	1850	Slavic Cultures in the USA
SLAV	1861	Slavic Folklore
SLAV	1865	The Year Communism Crumbled
SLAV	1901	Independent Study

SLAVIC LANGUAGES & LITERATURES

SLOVAK	0010	Elementary Slovak 1
SLOVAK	0020	Elementary Slovak 2
SLOVAK	0030	Intermediate Slovak 3
SLOVAK	0040	Intermediate Slovak 4
SLOVAK	0210	Intensive Beginning Slovak
SLOVAK	0220	Intensive Intermediate Slovak
SLOVAK	0230	Intensive Advanced Slovak
SLOVAK	0400	Advanced Slovak 1
SLOVAK	0410	Advanced Slovak 2
SLOVAK	1250	Cultural History of Slovakia
SLOVAK	1260	Survey of Slovak Literature and Culture
SLOVAK	1270	Slovakia Today
SLOVAK	1280	Modern Slovak Literature
SLOVAK	1770	Czech and Slovak Cinema
SLOVAK	1901	Independent Study

SOCIOLOGY

SOC	0002	Sociology of Everyday Life
SOC	0005	Societies
SOC	0007	Social Problems

SOC	0010	Introduction to Sociology
SOC	0150	Social Theory
SOC	0230	Social Research Methods
SOC	0312	Science in Society
SOC	0317	Global Society
SOC	0339	Sociology of Religion
SOC	0351	Social Change
SOC	0352	Social Movements
SOC	0354	Social Structure of Contemporary Japan
SOC	0362	Latin American Societies
SOC	0386	French Revolution
SOC	0411	Deception and Betrayal
SOC	0424	Small Groups
SOC	0426	Society and the Child
SOC	0431	Bureaucracies
SOC	0432	Wealth and Power
SOC	0434	Political Sociology
SOC	0438	Sociology of the Family
SOC	0444	Urban Sociology
SOC	0446	Sociology of Gender
SOC	0460	Minority Groups
SOC	0465	Sociology of Sports
SOC	0471	Deviance and Social Control
SOC	0475	Sociology of Aging
SOC	0476	Work and Occupations
SOC	0477	Medical Sociology
SOC	0478	Youth and Society
SOC	0479	Sociology of Education
SOC	1105	Feminist Social Theory
SOC	1219	Social Networks
SOC	1231	Interorganizational Networks
SOC	1277	The Pittsburgh Area Study
SOC	1325	Two Centuries of Democratization
SOC	1333	Comparative Perspectives on Women
SOC	1342	Mass Society in Japan
SOC	1351	Seminar: Latin American Societies
SOC	1354	Japan and the USA
SOC	1360	Peace Movements and Peace Education
SOC	1362	Revolutionary Social Movements
SOC	1365	Race, Gender, and Development
SOC	1413	Marriage
SOC	1414	Special Topics
SOC	1435	Social Change in the United States
SOC	1443	Juvenile Delinquency
SOC	1445	Society and Environment
SOC	1447	Science and Technology in the United States, Japan, and Europe
SOC	1448	Working Women
SOC	1450	Health and Illness
SOC	1456	Separation, Divorce, and Custody
SOC	1467	Topics in Mental Health and Illness
SOC	1476	Urban Policy and Planning
SOC	1486	War and the Military in the United States
SOC	1488	History of Medicine and Health Care
SOC	1900	Internship
SOC	1901	Independent Study
SOC	1902	Directed Reading
SOC	1903	Directed Research

HISPANIC LANGUAGES & LITERATURES

SPAN	0001	Elementary Spanish 1
SPAN	0002	Elementary Spanish 2
SPAN	0003	Intermediate Spanish 3
SPAN	0004	Intermediate Spanish 4
SPAN	0007	Elementary Spanish for Reading
SPAN	0008	Intermediate Spanish for Reading
SPAN	0020	Conversation
SPAN	0025	Grammar and Composition
SPAN	0031	Elementary Spanish 1 for MBAs
SPAN	0032	Elementary Spanish 2 for MBAs
SPAN	0050	Spanish Civilization
SPAN	0051	Latin American Civilization
SPAN	0055	Introduction to Hispanic Literature 1
SPAN	0082	Latin America Today
SPAN	1020	Advanced Conversation
SPAN	1025	Advanced Grammar
SPAN	1192	Topics in Translation
SPAN	1195	Spanish Professional Translation 1
SPAN	1196	Spanish Professional Translation 2
SPAN	1240	Language and the Law
SPAN	1300	Spanish Phonetics and Phonemics
SPAN	1301	Structure of Modern Spanish
SPAN	1302	Advanced Composition and Stylistics
SPAN	1303	Seminar in Language and Culture
SPAN	1304	Methods of Teaching Spanish
SPAN	1305	Spanish Applied Linguistics
SPAN	1306	Special Topics in Applied Linguistics
SPAN	1307	Applied Sociopragmatics
SPAN	1309	History of the Language
SPAN	1321	Business Spanish 1
SPAN	1323	Medical Spanish
SPAN	1325	Legal Spanish
SPAN	1400	Survey of Latin American Literature
SPAN	1404	Latin American Topics
SPAN	1405	Seminar in Latin American Literature and Culture
SPAN	1406	U.S. Latino Literature
SPAN	1407	U.S. Latino Film, Video, and Cultural Imaginaries
SPAN	1600	Survey of Spanish Literature
SPAN	1602	Contemporary Perspective of the Iberian Peninsula
SPAN	1603	Peninsular Topics
SPAN	1801	Don Quixote and the Novel
SPAN	1805	Contemporary Hispanic Literature and Society
SPAN	1807	Hispanic Special Topics
SPAN	1900	Professional Translation Internship—Spanish
SPAN	1902	Directed Study
SPAN	1707	The African Presence in Latin American Literature and Culture

STUDIO ART

SA	0110	Foundation Design
SA	0120	Foundation Painting
SA	0130	Foundation Drawing
SA	0140	Foundation Sculpture
SA	1230	Drawing
SA	1240	Sculpture
SA	1250	Painting

SA	1260	Printmaking–Etching
SA	1270	Digital Imaging
SA	1330	Drawing
SA	1340	Sculpture
SA	1350	Painting
SA	1360	Printmaking–Lithography
SA	1370	Preparation and Practice in the Visual Arts
SA	1420	Color
SA	1430	Perspective Drawing
SA	1445	Sculpture—Metal
SA	1450	Painting—-Figure and Portrait
SA	1455	Painting—Landscape
SA	1470	Graphic Design
SA	1530	Directed Study—Drawing
SA	1540	Directed Study—Sculpture
SA	1550	Directed Study—Painting
SA	1560	Directed Study—Printmaking
SA	1570	Directed Study—Electronic Media
SA	1900	Internship

STATISTICS

STAT	0200	Basic Applied Statistics
STAT	0800	Statistics in the Modern World
STAT	1000	Applied Statistical Methods
STAT	1100	Statistics and Probability for Business Management
STAT	1151	Introduction to Probability
STAT	1152	Introduction to Mathematical Statistics
STAT	1201	Applied Nonparametric Statistics
STAT	1211	Applied Categorical Data Analysis
STAT	1221	Applied Regression
STAT	1223	Applied Regression Writing Component
STAT	1231	Applied Experimental Design
STAT	1241	Applied Sampling
STAT	1251	Statistical Quality Control
STAT	1291	Topics in Applied Statistics 1
STAT	1292	Topics in Applied Statistics 2
STAT	1293	Topics in Applied Statistics 3
STAT	1294	Topics in Applied Statistics 4
STAT	1301	Statistical Packages
STAT	1311	Applied Multivariate Analysis
STAT	1321	Applied Time Series
STAT	1631	Intermediate Probability
STAT	1632	Intermediate Mathematical Statistics
STAT	1651	Bayesian Statistics
STAT	1661	Linear Regression
STAT	1662	Nonlinear Regression
STAT	1681	Introduction to Sequential Analysis
STAT	1731	Stochastic Processes
STAT	1741	Applied Probability Theory
STAT	1761	Game Theory
STAT	1771	Queueing Theory
STAT	1781	Combinatorics
STAT	1791	Topics in Probability and Statistics 1
STAT	1792	Topics in Probability and Statistics 2
STAT	1793	Topics in Probability and Statistics 3
STAT	1794	Topics in Probability and Statistics 4
STAT	1900	Internship
STAT	1902	Directed Study

THEATRE ARTS

THEA	0800	Introduction to Theatre Arts
THEA	0810	Introduction to Dramatic Art
THEA	0830	Introduction to Performance
THEA	0840	Introduction to Theatre Design
THEA	0842	Introduction to Stagecraft
THEA	0850	Introduction to Shakespeare
THEA	0880	Theatrical Production
THEA	1100	Voice and Movement 1
THEA	1101	Voice and Movement 2
THEA	1102	Acting 1
THEA	1103	Acting 2
THEA	1104	Acting 3
THEA	1105	Acting 4
THEA	1106	History of Performance Style
THEA	1107	Instructional Performance Company
THEA	1109	Performance Lab
THEA	1110	Directing 1
THEA	1111	Directing 2
THEA	1120	Creative Dramatics
THEA	1220	Design for Theatrical Production
THEA	1225	Stagecraft 1
THEA	1226	Stagecraft 2
THEA	1227	Scene Painting
THEA	1229	Theatre Business Management
THEA	1230	Stage Lighting 1
THEA	1231	Stage Lighting 2
THEA	1235	Scene Design 1
THEA	1236	Scene Design 2
THEA	1237	High School Workshop Scene Design
THEA	1240	Costume Crafts
THEA	1241	History of Costume
THEA	1242	Patternmaking
THEA	1245	Stage Makeup
THEA	1246	Costume Design 1
THEA	1338	Music for Theatre
THEA	1340	Native American Theatre
THEA	1341	History of Theatre 1
THEA	1342	History of Theatre 2
THEA	1350	American Theatre
THEA	1351	Greek and Roman Theatre
THEA	1352	Medieval Theatre
THEA	1353	Continental Renaissance Theatre
THEA	1354	English Theatre 1558–1642
THEA	1355	Restoration Theatre
THEA	1356	18th-Century Drama
THEA	1357	19th-Century Drama
THEA	1358	Modern Theatre to WWII
THEA	1359	Contemporary Theatre
THEA	1360	Theatre Criticism
THEA	1361	Forms of Japanese Theatre
THEA	1365	Playwriting 1
THEA	1366	Playwriting 2
THEA	1367	Contemporary American Dramatists
THEA	1373	Design for Film
THEA	1480	Directed Project Scenery/Props
THEA	1481	Directed Project Costume/Makeup
THEA	1482	Directed Project Lighting/Sound

THEA	1483	Directed Project Directing/ Performance
THEA	1484	Directed Project Business Management
THEA	1488	Theatre Production
THEA	1900	Independent Study
THEA	1901	Internship
UNIVERSITY CENTER FOR EXCELLENCE PROGRAM		
UCEP	0210	Physical Science 1
UCEP	0211	Physical Science 2
UCEP	0340	Elementary Statistics
UCEP	0820	Learning Skills
SLAVIC LANGUAGES & LITERATURES		
UKRAIN	0010	Elementary Ukrainian 1
UKRAIN	0020	Elementary Ukrainian 2
UKRAIN	0030	Intermediate Ukrainian 1
UKRAIN	0040	Intermediate Ukrainian 2
UKRAIN	0210	Intensive Beginning Ukrainian
UKRAIN	1901	Independent Study
URBAN STUDIES		
URBNST	0080	Introduction to Urban Studies
URBNST	1200	Urban Studies Field Research Seminar
URBNST	1300	Urban Studies Skills Seminar
URBNST	1500	Urban Studies Research Seminar
URBNST	1700	International Urbanism Seminar
URBNST	1900	Urban Studies Field Placement
WOMEN'S STUDIES		
WOMNST	0030	Women and Society
WOMNST	0031	Introduction to Women's Studies in the Social Sciences
WOMNST	1140	Special Topics
WOMNST	1142	Feminist Theory
WOMNST	1900	Internship
WOMNST	1901	Independent Study

■ COLLEGE OF BUSINESS ADMINISTRATION

The College of Business Administration (CBA) is the undergraduate division of the Joseph M. Katz Graduate School of Business and awards the Bachelor of Science in Business Administration (BSBA) degree. The CBA offers full-time and part-time programs with majors in accounting, finance, general management, and marketing. Joint degree programs are also available to BSBA students in conjunction with the College of Arts and Sciences (CAS) and with the School of Information Sciences (SIS). CBA also offers certificate programs in international business and leadership and ethics for students in the BSBA degree program.

Additional degree programs include the CAS/business dual major program offered through the College of Arts and Sciences in conjunction with the CBA, and a postbaccalaureate certificate program in accounting available through the College of General Studies. CBA draws its faculty from the Katz School and is accredited by AACSB International—The Association to Advance Collegiate Schools of Business.

The CBA mission is to help undergraduate students of high potential and motivation develop as world citizens and acquire the knowledge, analytical capabilities, interpersonal skills, and personal qualities required for leadership excellence in organizations.

Contact Information

University of Pittsburgh
College of Business Administration
Office of Admissions
2100 Sennott Square
Pittsburgh, PA 15260
412-383-9600
cba-admissions@katz.pitt.edu
www.cba.pitt.edu

Application Procedures

Freshman and transfer admissions to the CBA are handled through the Office of Admissions and Financial Aid. (Please refer to the Application for Admission section of this bulletin, for detailed information about application procedures for first-time freshmen; students transferring from other academic institutions; or for students transferring from other University of Pittsburgh colleges, schools, or regional campuses.)

Special Admissions

Under certain circumstances, second degree, post-baccalaureate, and guest students may apply directly to the College of Business Administration for admission. Students applying under one of these statuses are considered for admission based on the strength of their academic records. (See Second Degree Candidates and Special and Nondegree Admissions sections of this bulletin for more information.) Contact the CBA Office of Admissions for specifics on admission requirements and other procedures.

Evaluation of Transfer Credits

Students transferring from other colleges or universities are encouraged to apply to the College of Business Administration through the Office of Admissions and Financial Aid. (See Transfer Student Admissions section of this bulletin for detailed information.) Upon admission to CBA, transfer students will receive both a transfer credit evaluation and a BSBA degree sheet in the mail. The credit evaluation sheet lists the courses that have been accepted for transfer, as well as the total number of transfer credits awarded. The degree sheet shows how the transferred courses will apply to the student's BSBA degree from CBA. To transfer, a course must be completed with a grade of C or better. The University does not accept grades for transfer, only credits. Students who have questions about their credit evaluation should contact the CBA Office of Admissions.

Academic Standards

The following section details the school's academic standards:

Academic Standing Policy

The undergraduate committee reviews the academic standing of all BSBA students at the end of each term. As a result of this review, students are assigned one of the following academic standing codes: good standing, academic probation, academic suspension, or academic dismissal.

Good Academic Standing

Students remain in good standing as long as they maintain a cumulative quality point average (QPA) of 2.00 in all courses applicable to the BSBA degree.

Academic Probation

Students whose cumulative QPA falls below 2.00 are placed on academic probation.

For full-time students: If after one term of being placed on probation the cumulative QPA of a full-time student on probation remains below 2.00, the student is subject to suspension or dismissal.

For part-time students: If after attempting 15 additional credits the cumulative QPA of a part-time student on probation remains below 2.00, the student is subject to suspension or dismissal. Students will not be awarded transfer credit for courses taken at other colleges or universities while on academic probation.

Academic Suspension

An academic suspension from CBA prohibits students from enrolling in courses as CBA students for one calendar year. Students will not be awarded transfer credit for courses taken at other colleges or universities during a suspension. After one calendar year, suspended students are eligible to apply for reinstatement to the College of Business Administration. Reinstated students will be on academic probation.

For full-time students: If after one term of being reinstated, the cumulative QPA of a full-time student on probation remains below 2.00, the student is again subject to suspension or dismissal. A second suspension results in a suspension for a period of five years.

For part-time students: If after attempting 15 additional credits, the cumulative QPA of a part-time student on probation remains below 2.00, the student is again subject to suspension or dismissal. A second suspension results in a suspension for a period of five years.

Academic Dismissal

Dismissal from CBA is a permanent action, and dismissed students are not eligible for reinstatement.

Quality Point Average Standards

Overall QPA

A cumulative quality point average (QPA) of 2.00 is required in all courses applied toward the BSBA degree.

Major QPA

A minimum cumulative QPA of 2.25 (C+ average) is required in all courses applied toward a student's major. A C- or better must be earned in each course applied toward a student's major.

For full-time students: If a full-time student's major QPA drops below 2.25 for two consecutive terms, no new major courses may be taken until the major QPA is raised to 2.25 through course repeats.

For part-time students: If a part-time student's major QPA drops below 2.25 for 9 consecutive credits in his/her major, no new major courses may be taken until the major QPA is raised to 2.25 through course repeats.

Satisfactory/Audit Grade Option Policy

All required BSBA core courses and all courses to be applied to a student's major must be taken on a letter grade basis. In addition, courses taken to fulfill the requirements in microeconomics, macroeconomics, calculus, statistics, and psychology must also be taken on a letter grade basis. Language classes, arts and sciences courses, and electives may be taken on a satisfactory/audit (S/N) grade basis.

Under the satisfactory/audit option, a student who does satisfactory work (C or better) receives the grade of S for the course and earns credit for the course. If a student does unsatisfactory work (defined as C- or lower), the student receives the grade of N and does not earn credit for the course.

Academic Integrity

All CBA students are responsible for adhering to CBA policies on academic integrity, which are available on the CBA Web site (www.cba.pitt.edu). CBA academic integrity guidelines follow the University's guidelines with several procedural changes. Please see the guidelines for details.

Advising

Students pursuing the BSBA degree receive academic advising from full-time professional academic advisors in the College of Business Administration. Each new BSBA student is assigned an academic advisor, establishing a relationship that will continue through graduation unless the student requests an advisor assignment change.

Academic advisors are information resources. Advisors meet with BSBA students several times each year to help students create academic plans and register for classes; to review general information about degree requirements; to discuss career-related work experiences, internships, resume development, and study abroad plans; and to address any other issues that may affect a student's academic performance and career goals. BSBA students are required to meet with their academic advisors each term to register for classes but are encouraged to meet at least twice per term.

Students enrolled in the CAS/business dual major are encouraged to consult with CBA's dual major advisor, who specializes in issues specific to the dual major program, in addition to their CAS advisor. CAS/business dual majors register for all of their courses with their CAS advisor.

Advisors do not make decisions for students, but work with students to help them make wise choices by providing the necessary information about academic options. Students

who proactively plan their education and set career goals with help from their advisors are likely to benefit most from CBA academic advising services.

BSBA Program Goals

The BSBA program has three major goals:

1. The program seeks to provide students with key basic skills in written and oral communication and mathematics.
2. The program seeks to provide students with a broad education that establishes the foundation for their development as world citizens. To meet these goals, the program draws upon the broad range of general education courses offered by the College of Arts and Sciences and the College of General Studies.
3. The program seeks to develop expertise in the disciplines of the arts and sciences and management that are especially relevant in preparing students for management careers. In meeting this third goal, the program focuses on
   - Developing an understanding of the mathematical and social science foundations of management theory and practice;
   - Developing an understanding of how organizations function internally and how they adapt to external forces in a global context; and
   - Developing skills in managing an organization's financial, physical, human, and information resources.

Although most students will pursue management careers in business firms, the program also provides an excellent foundation for further education and pursuit of management careers in the health professions, the public sector, and not-for-profit organizations.

BSBA Degree Requirements

The following sections describe the general requirements for all majors within the Bachelor of Science in Business Administration (BSBA) degree program:

Graduation Requirements

One-hundred twenty credits are required for graduation with a BSBA degree. A minimum of 57 credits and a maximum of 66 credits in business courses may count toward the degree. A minimum of 54 credits must be taken in the arts and sciences.

A student may use one course to fulfill two arts and sciences requirements (e.g., AFRCNA 1004 Africana World Literature fulfills both literature and foreign culture requirements), thus permitting the student to take additional electives. These electives may be taken in the arts and sciences or in business, provided that the 66 credit limit on business credits (out of 120) is not exceeded. Credits taken in excess of 120 may be taken in either arts and sciences or business courses.

Arts and Sciences Foundations: Basic Skills Requirements

There are seven basic skills that all BSBA students must master; these basic skills prepare students for future classes. The basic skills requirements include:

English Composition

Students earning scores of 600 or greater on the verbal portion of the SAT are not required to take the University of Pittsburgh English Composition Placement Test. These students will enroll in either ENGCMP 0200 Seminar in Composition, ENGCMP 0203 Seminar in Composition: Women's Studies, or ENGCMP 0205 Seminar in Composition: Film Studies to fulfill the English composition requirement.

Students earning scores of 590 or less on the verbal portion of the SAT are required to take the University of Pittsburgh English Composition Placement Test. Based on the student's performance on this test, one of four outcomes will result:

1. A student may place into one of the composition options (see above);
2. A student who demonstrates weaker writing skills will also be required to register for ENGCMP 0201 Composition Tutorial (1 credit). Composition Tutorial is not counted toward the 120 total credits required for graduation from the BSBA program;
3. A student with very weak reading/writing skills will be required to register for ENGCMP 0100/0101 Intensive Workshop in Composition/Intensive Composition Workshop (6 credits). These courses are not counted toward the 120 total credits required for graduation from the BSBA program.
4. When English is a student's second language, the student may be required to take ENGCMP 0152 English as a Second Language (ESL): Workshop in Composition (3 credits). English as a Second Language is not counted toward the 120 total credits required for graduation from the BSBA program.

All students are encouraged to complete their English composition requirement(s) in the freshman year.

Students earning a score of 600 on the verbal portion of the SAT, who also earn a score of 5 on the Advanced Placement (AP) English exam, will be awarded advanced standing credit for ENGCMP 0200 Seminar in Composition and 3 additional credits in English literature. However, these 3 credits in English literature do not fulfill a student's CBA literature requirement.

Foreign Language

Any one of the following fulfills the language requirement:

- Three years of study of a single foreign language in high school, passed with an average of C or better over the three years.
- A score of 450+ on a College Entrance Examination Board (CEEB) foreign language achievement test.
- Placement into level III of a foreign language on a University of Pittsburgh language placement test.
- Placement into level II of a foreign language on a University of Pittsburgh language placement test and completion of the appropriate course from the second course list below.
- Completion of one of the two-course sequences listed below:

First Course

CHIN	0001	First Year Spoken 1
CHIN	0025	Chinese for Professionals 1
FR	0001	Elementary French 1
GER	0001	Elementary German 1
ITAL	0001	Elementary Italian 1
JS	0013	Elementary Hebrew 1
JPNSE	0001	First Year Japanese 1
JPNSE	1011	Basic Japanese Language 1
LING	0471	American Sign Language 1
POLISH	0010	Elementary Polish 1
RUSS	0010	Elementary Russian 1
SPAN	0001	Elementary Spanish 1

Second Course

CHIN	0002	First Year Spoken 2
CHIN	0026	Chines for Professionals 2
FR	0002	Elementary French 2
GER	0002	Elementary German 2
ITAL	0002	Elementary Italian 2
JS	0014	Elementary Hebrew 2
JPNSE	0002	First Year Japanese 2
JPNSE	1012	Basic Japanese Language 2
LING	0472	American Sign Language 2
POLISH	0020	Elementary Polish 2
RUSS	0020	Elementary Russian 2
SPAN	0002	Elementary Spanish 2

Other foreign language sequences will be considered upon request.

Algebra

Any one of the following fulfills the requirement:

- A score of 600+ on the mathematical reasoning section of the SAT I.
- Successful completion of the Algebra Placement Test.
- MATH 0010 College Algebra Part 1* and MATH 0020 College Algebra Part 2*
- MATH 0031 Algebra*
- MATH 0100 Preparation for Business Calculus

* not counted toward the 120 credits required for graduation

Calculus

Taking one course from the following list fulfills this requirement:
Note: *Only one of these courses may apply to the 120 total credits required for graduation.*

- MATH 0120 Business Calculus
- MATH 0220 Analytic Geometry and Calculus 1

Statistics

- STAT 1100 Statistics and Probability for Business Management fulfills this requirement.

Economics

Both of the following courses must be taken to fulfill this requirement:

- ECON 0100 Introduction to Microeconomic Theory
- ECON 0110 Introduction to Macroeconomic Theory

(The University Honors College course ECON 0120 Introductory Economic Theory fulfills both the microeconomics and macroeconomics requirements. This course is not offered every term.)

Psychology

- PSY 0010 Introduction to Psychology fulfills this requirement.

Arts and Sciences General Education Electives

In addition to fulfilling the basic skills requirements, students further supplement their business curriculum by taking courses from six general education categories including:

- Literature (one course)
- Music/art (one course)
- Philosophy (one course)
- Social sciences (two courses, each from a different discipline)
- Natural sciences (two courses in a sequence)
- Foreign culture (two courses or participation in an approved study abroad program or the University's Semester at Sea program)

Note: *All students, including international students and U.S. citizens who have lived abroad for any length of time, must complete the foreign culture requirement.*

Contact the school for a listing of approved courses that meet these elective requirements.

Business Core Curriculum

The following courses (42 credits) are required of all CBA students:

BUSSPP	0020	Managing in Complex Environments
BUSACC	0030	Financial Accounting
Prerequisite:		
ECON	0100	Introductory Microeconomic Theory
or		
ECON	0110	Introductory Macroeconomic Theory
BUSACC	0040	Managerial Accounting
Prerequisite:		
BUSACC	0030	Financial Accounting
BUSQOM	0050	Quantitative Methods
Prerequisite:		
STAT	1100	Statistics and Probability for Business Management
BUSENV	0060	Ethics and the Business Environment
Prerequisite: One social science course		
BUSECN	1010	Business Economics
Prerequisites:		
MATH	0120	Business Calculus
ECON	0100	Introductory Microeconomic Theory
ECON	0110	Introductory Macroeconomic Theory

BUSORG	1020	Organizational Behavior
Prerequisites:		
PSY	0010	Introduction to Psychology
BUSORG	1101	Fundamentals of Business Communication
BUSFIN	1030	Introduction to Finance
Prerequisites:		
BUSACC	0030	Financial Accounting and 60 credits
STAT	1100	Statistics and Probability for Business Management
BUSMKT	1040	Introduction to Marketing
Prerequisite: 60 credits		
BUSHRM	1050	Human Resources Management
Prerequisite: 60 credits		*(May be taken concurrently with BUSORG 1020 Organizational Behavior)*
BUSMIS	1060	Information Systems and Business Process Design
Prerequisite: 60 credits		
BUSQOM	1070	Operations Management
Prerequisite:		
BUSQOM	0050	Quantitative Methods
BUSSPP	1080	Strategic Management
Prerequisite: 90 credits		

Other Business Requirements

Most CBA students must also satisfy the following requirements:

- CBA Orientation: (BUS 0001) is required of all first-time freshmen. The course introduces new BSBA students to the University and to CBA and helps students prepare for a career in business. This orientation course focuses on academic habits, skill building, career and major exploration, and other options to enhance the degree, including study abroad and internship acquisition.
- Software Competency: All CBA and CAS/business dual majors must develop basic proficiency in Microsoft Excel. The requirement may be fulfilled by successfully completing the Excel-based homework assignments in BUSACC 0040 Managerial Accounting and BUSQOM 0050 Quantitative Methods. An introduction to Excel will be offered during the first help session in BUSACC 0040 and BUSQOM 0050 for those students who have not learned the basics in other courses or on their own. The assignments in the courses presume and build upon this understanding of the basics.
- International Perspective: One business elective from a list of courses with substantial international content is required. These courses are asterisked under BSBA Program Descriptions.

Major and Degree Options

The College of Business Administration offers the following degree options:

BSBA Degree

The College of Business Administration awards the Bachelor of Science in Business Administration (BSBA) degree and offers majors in accounting, finance, general management, and marketing. General management majors select two areas of focused study from the following: accounting, finance, human resources management, management information systems, marketing, and/or organizational behavior.

CBA Double Majors

Students pursing the BSBA degree may opt for a double major (i.e., earning two complete BSBA majors). Implications of this choice should be discussed with an academic advisor.

CBA Certificate Programs

BSBA students have the opportunity to specialize their studies in ethics or international business through certificate programs.

The Certificate Program in International Business (CPIB) builds upon the core curriculum in the College of Business Administration and is available only to BSBA students. Most students admitted to the CPIB will be able to complete all certificate program requirements within 120 credits and four years. Requirements include satisfactory completion of level 4 of a foreign language (a two-year, four-course sequence at the University of Pittsburgh), specialized course work, and one term of approved study abroad or an international internship (3–12 credits).

The Certificate Program in Leadership and Ethics (CPLE) builds upon the core curriculum in the College of Business Administration and is available only to BSBA students. Students admitted to the CPLE will be required to successfully complete all requirements for the BSBA degree and a minimum of 124 credits. Thirteen of the 124 credits are composed of specific course work, internships, and a service-learning project integrating ethics and leadership.

Area Studies Certificate Programs

Interdisciplinary certificates are offered in African, Asian, global, Latin American, Russian and East European, and West European studies through the University Center for International Studies. (See descriptions in the UCIS section of this bulletin for details.)

CAS/Business Dual Major Program

The College of Business Administration, in conjunction with the College of Arts and Sciences, offers the CAS/business dual major program for students who wish to combine a CAS major with a major in business. In this program, students earn a Bachelor of Arts or a Bachelor of Science degree, depending on their arts and sciences major, through the College of Arts and Sciences.

Students in the dual major program fulfill all CAS general education requirements and complete both a CAS major and a CBA major. CAS requirements and general education courses provide a liberal education foundation, and the CAS major adds a deeper understanding of one or several of the arts and sciences disciplines. The business course work introduces students to topics such as accounting, ethics

and the business environment, finance, marketing, human resources, information systems, operations management, organizational behavior, quantitative methods, and strategic management.

Most students complete this 120-credit program in four years with proper planning and consultation with a CAS advisor and the CAS/business dual major advisor. (See the College of Arts and Sciences section of this bulletin for detail on the CAS/business dual major.)

CBA/CAS Joint Degree

CBA offers the joint degree program for students seeking to earn degrees in both business and the arts and sciences. Students earning degrees from both CBA and CAS complete a 150-credit program of study, generally requiring five years of study. Students considering this option should consult with advisors in both CBA and CAS, as well as a representative from the Career Services Office, to determine how this program will advance their academic and career goals.

CBA/SIS Joint Degree

CBA offers a joint degree program for BSBA students seeking to earn degrees in both business and information sciences. Students earning degrees from both CBA and SIS complete a 150-credit program of study, generally requiring five years of study. Students considering this option should consult with advisors in both CBA and SIS, as well as a representative from the Career Services Office, to determine how this program will advance their academic and career goals.

Special Academic Opportunities/ Programs

The College of Business Administration offers the following special programs:

Internship Programs

CBA actively recruits organizations for professional internship opportunities in which business students can apply classroom theory in a relevant work environment. Internships also enhance a student's job placement potential by improving the level of immediate contribution they can offer the firm.

Student Organizations

In addition to the more than 250 student organizations at the University of Pittsburgh, there are more than a dozen organizations specifically for business students, including two business fraternities. Participation in business student organizations provides excellent opportunities for students to enhance their undergraduate education. Being active in student organizations can help students hone their leadership, interpersonal, and analytical skills they acquire through the business curriculum; gain new skills; identify talents; establish business contacts that will improve employment potential; and make friends.

BSBA Degree Program Descriptions

BSBA students may choose a major in accounting, finance, general management, or marketing. To earn the BSBA degree in any of these majors, students must complete a minimum of 120 credits, fulfill all arts and sciences foundation requirements, complete all BSBA core curriculum requirements, and fulfill any major-specific requirements as detailed below.

Accounting

The major in accounting is designed to provide students with the general, business, and accounting knowledge necessary for them to succeed as professional accountants. As accounting is a dynamic field, all accounting majors will learn how to keep their knowledge up to date so they can continue to grow throughout their professional careers. Accounting majors will acquire the communication, computer, and interpersonal skills necessary to successfully resolve complex problems in unstructured settings. Accounting majors benefit from participation in extracurricular activities and organizations such as the University of Pittsburgh Accounting Association and Beta Alpha Psi, the national accounting honorary fraternity.

All accounting majors must complete the two BSBA core courses in accounting as well as the six required accounting major courses listed below. Accounting majors will fulfill the international perspectives requirement in the Intermediate Financial Reporting courses (see *courses below). All courses are 3 credits unless noted otherwise.

BSBA Core Courses in Accounting

Students must complete these courses with an average of C+ or better to be eligible to take additional accounting courses:

BUSACC	0030	Financial Accounting
BUSACC	0040	Managerial Accounting

Required Accounting Major Courses (19 credits)

Courses are offered on a rotating basis.

BUSACC	1204*	Intermediate Financial Reporting 1
BUSACC	1205*	Intermediate Financial Reporting 2
BUSACC	1221	Strategic Cost Management
BUSACC	1236	Accounting Information Systems
BUSACC	1238	Auditing
BUSACC	1241	Tax Accounting (4 credits)

Accounting Electives

BUSACC	1206	Intermediate Financial Reporting 3
BUSACC	1216	Advanced Financial Accounting
BUSACC	1296	Accounting Internship (requires CBA approval)
BUSACC	1298	Accounting Independent Study (requires CBA approval)

Students preparing for the Certified Public Accounting (CPA) exam are strongly encouraged to consider taking BUSACC 1206 Intermediate Financial Reporting 3, BUSACC 1216 Advanced Financial Accounting, and BUSENV 1760 Business Law.

Finance

The major in finance is designed to provide students with the financial knowledge and skills required for a successful business career. It attempts to give students a thorough understanding of the theoretical financial principles and the practical implementation of these principles in the world of business. Students learn how financial markets operate and how to make effective investment and financial decisions. The major is designed to develop analytical skills and problem-solving abilities.

Finance knowledge and practice have become crucial for the success of corporations and of the individuals employed by them. Financial markets are the major conduits through which investments are channeled in the global marketplace. Understanding these markets and how to make investment decisions is crucial for success in business.

In addition to the BSBA core course, BUSFIN 1030 Introduction to Finance, at least 15 credits in finance course work are required for the finance major. *Asterisked courses fulfill the international perspective requirement.

BSBA Core Course in Finance

This course must be completed with a C+ or better to take additional finance courses:

BUSFIN	1030	Introduction to Finance

Required Finance Major Courses

BUSFIN	1311	Corporate Finance
BUSFIN	1321*	Investment Management

Finance Electives

Courses are offered on a rotating basis.
(A minimum of three courses must be taken.)

BUSFIN	1316	Advanced Corporate Finance
BUSFIN	1326	The Efficiency of Capital Markets
BUSFIN	1327	Futures and Options
BUSFIN	1328	Capital Markets
BUSFIN	1331	Financial Institutions and Markets
BUSFIN	1341*	International Finance
BUSFIN	1390	Finance Internship (requires CBA approval)
BUSFIN	1395	Finance Independent Study (requires CBA approval)

General Management

The major in general management provides students with interests in more than one discipline with the flexibility to concentrate their elective course work in two areas. Course work in the areas noted below may be used for the general management major. Courses with significant international content are offered in several areas. Students with international business interests should also consider a study abroad program.

The core courses in the two focused areas of study must be completed with a C+ or better to take additional courses in those areas. Courses are offered on a rotating basis.

*Asterisked courses fulfill the international perspective requirement.

Accounting

BUSACC	1204*	Intermediate Financial Reporting 1
BUSACC	1205*	Intermediate Financial Reporting 2
BUSACC	1206	Intermediate Financial Reporting 3
BUSACC	1216	Advanced Financial Accounting
BUSACC	1221	Strategic Cost Management
BUSACC	1236	Accounting Information Systems
BUSACC	1238	Auditing
BUSACC	1241	Tax Accounting
BUSACC	1296	Accounting Internship (requires CBA approval)
BUSACC	1298	Accounting Independent Study (requires CBA approval)

Finance

BUSFIN	1311	Corporate Finance
BUSFIN	1316	Advanced Corporate Finance
BUSFIN	1321*	Investment Management
BUSFIN	1326	Efficiency of Capital Markets
BUSFIN	1327	Futures and Options
BUSFIN	1328	Capital Markets
BUSFIN	1331	Financial Institutions and Markets
BUSFIN	1341*	International Finance
BUSFIN	1390	Finance Internship (requires CBA approval)
BUSFIN	1395	Finance Independent Study (requires CBA approval)

Human Resources Management

BUSHRM	1665	Negotiating in Business
BUSHRM	1675	Human Resources Staffing
BUSHRM	1680	Compensation and Performance Management
BUSHRM	1685	Employment and Labor Relations
BUSHRM	1690	Human Resources Management Internship (requires CBAapproval)
BUSHRM	1695	Human Resources Management Independent Study (requires CBA approval)

Management Information Systems

BUSMIS	1600	Information Systems Design and Development
BUSMIS	1605	Database Management
BUSMIS	1610	Telecommunications Management
BUSMIS	1615	Management Information Systems Internship (requires CBA approval)
BUSMIS	1620	Management Information Systems Independent Study (requires CBA approval)
BUSMIS	1625	Electronic Commerce

Marketing

BUSMKT	1411	Marketing Research
BUSMKT	1421	Selling Skills and Sales Management
BUSMKT	1426	Advertising and Sales Promotion
BUSMKT	1431	Product Development and Management
BUSMKT	1435	Services Marketing
BUSMKT	1441*	Consumer Behavior
BUSMKT	1445	Customer Insight from Commercial Databases

BUSMKT	1451	Retail Management
BUSMKT	1461*	International Marketing
BUSMKT	1481*	Marketing Management
BUSMKT	1490	Marketing Internship (requires CBA approval)
BUSMKT	1495	Marketing Independent Study (requires CBA approval)

Organizational Behavior

BUSORG	1650	Issues in Career Management
BUSORG	1655*	International Dimensions of Organizational Behavior
BUSORG	1660	Women and Men at Work
BUSORG	1670	Organizational Behavior Independent Study (requires CBA approval)

Marketing

The major in marketing is designed to provide students with the conceptual background and practical skills necessary to address questions such as what new products a firm should introduce, how products should be priced, how to identify the best channels of distribution, and how best to promote new and existing products. Students majoring in marketing can pursue careers in retailing, sales management, marketing research, advertising and promotion, consumer product marketing, or industrial marketing.

In addition to the general BSBA requirements, 15 credits in marketing course work, plus the BSBA core course BUSMKT 1040 Introduction to Marketing, are required for the marketing major.

*Asterisked courses fulfill the international perspective requirement.

BSBA Core Course in Marketing

Students must complete this course with a C+ or better to be eligible to take additional marketing courses:

BUSMKT	1040	Introduction to Marketing

Required Marketing Major Courses

BUSMKT	1411	Marketing Research
BUSMKT	1481*	Marketing Management

Marketing Electives

Courses are offered on a rotating basis.
(A minimum of three courses must be taken.)

BUSMKT	1421	Selling Skills and Sales Management
BUSMKT	1426	Advertising and Sales Promotion
BUSMKT	1431	Product Development and Management
BUSMKT	1435	Services Marketing
BUSMKT	1441*	Consumer Behavior
BUSMKT	1451	Retail Management
BUSMKT	1461*	International Marketing
BUSMKT	1490	Marketing Internship (requires CBA approval)
BUSMKT	1495	Marketing Independent Study (requires CBA approval)

College of Business Administration Course Offerings

These are the courses offered by the College of Business Administration.

BUSINESS

BUS	0001	CBA Orientation
BUS	1900	Business Internship
BUS	1901	Independent Study
BUS	1905	Managerial Competencies Internship
BUS	1906	Career Exploration Internship

ACCOUNTING

BUSACC	0030	Financial Accounting
BUSACC	0040	Managerial Accounting
BUSACC	1204	Intermediate Financial Reporting 1
BUSACC	1205	Intermediate Financial Reporting 2
BUSACC	1206	Intermediate Financial Reporting 3
BUSACC	1216	Advanced Financial Accounting
BUSACC	1221	Strategic Cost Management
BUSACC	1236	Accounting Information Systems
BUSACC	1238	Auditing
BUSACC	1241	Tax Accounting
BUSACC	1296	Accounting Internship
BUSACC	1298	Accounting Independent Study

BUSINESS ECONOMICS

BUSECN	1010	Business Economics
BUSECN	1508	Key Issues in International Economics for Managers

BUSINESS ENVIRONMENT

BUSENV	0060	Ethics and the Business Environment
BUSENV	1760	Business Law
BUSENV	1770	Business Environment Independent Study

FINANCE

BUSFIN	1030	Introduction to Finance
BUSFIN	1311	Corporate Finance
BUSFIN	1316	Advanced Corporate Finance
BUSFIN	1321	Investment Management
BUSFIN	1326	Efficiency of Capital Markets
BUSFIN	1327	Futures and Options
BUSFIN	1328	Capital Markets
BUSFIN	1331	Financial Institutions and Markets
BUSFIN	1341	International Finance
BUSFIN	1390	Finance Internship
BUSFIN	1395	Finance Independent Study

HUMAN RESOURCES MANAGEMENT

BUSHRM	1050	Human Resources Management
BUSHRM	1665	Negotiating in Business
BUSHRM	1675	Human Resources Staffing
BUSHRM	1680	Compensation and Performance Management
BUSHRM	1685	Employment and Labor Relations
BUSHRM	1690	Human Resources Management Internship
BUSHRM	1695	Human Resources Management Independent Study

MANAGEMENT INFORMATION SYSTEMS

BUSMIS	1060	Information Systems and Business Process Design

BUSMIS	1600	Information Systems Design and Development
BUSMIS	1605	Database Management
BUSMIS	1610	Telecommunications Management
BUSMIS	1615	Management Information Systems Internship
BUSMIS	1620	Management Information Systems Independent Study
BUSMIS	1625	Electronic Commerce

MARKETING

BUSMKT	1040	Introduction to Marketing
BUSMKT	1411	Marketing Research
BUSMKT	1421	Selling Skills and Sales Management
BUSMKT	1426	Advertising and Sales Promotion
BUSMKT	1431	Product Development and Management
BUSMKT	1435	Services Marketing
BUSMKT	1441	Consumer Behavior
BUSMKT	1445	Customer Insight from Commercial Databases
BUSMKT	1451	Retail Management
BUSMKT	1461	International Marketing
BUSMKT	1481	Marketing Management
BUSMKT	1490	Marketing Internship
BUSMKT	1495	Marketing Independent Study

ORGANIZATIONAL BEHAVIOR

BUSORG	1020	Organizational Behavior
BUSORG	1101	Fundamentals of Business Communication
BUSORG	1650	Issues in Career Management
BUSORG	1655	International Dimensions of Organizational Behavior
BUSORG	1660	Women and Men at Work
BUSORG	1670	Organizational Behavior Independent Study

QUANTITATIVE METHODS

BUSQOM	0050	Quantitative Methods
BUSQOM	1070	Operations Management
BUSQOM	1715	Operations Management Independent Study
BUSQOM	1720	Operations Management Internship

STRATEGIC PLANNING AND POLICY

BUSSPP	0020	Managing in Complex Environments
BUSSPP	0025	MCE+2: International Field Project—Czech Republic
BUSSPP	0026	MCE+2: International Field Project—Germany
BUSSPP	0027	MCE+2: International Field Project—Chile
BUSSPP	1080	Strategic Management
BUSSPP	1790	Strategic Management Internship
BUSSPP	1795	Strategic Management Independent Study

BUSINESS SERVICE

Business service (BUSERV) courses are offered for nonbusiness students.

BUSERV	1910	Introduction to Business
BUSERV	1915	Introduction to Management
BUSERV	1920	Financial Accounting
BUSERV	1925	Cost Accounting
BUSERV	1955	Principles of Selling
BUSERV	1975	Financial Planning for the Individual
BUSERV	1980	The Legal Environment of Business
BUSERV	1985	Small Business Management

■ SCHOOL OF DENTAL MEDICINE/ DENTAL HYGIENE PROGRAM

The University of Pittsburgh Dental Hygiene Program provides a comprehensive education in both the health sciences and clinical dental hygiene over the course of a two-year (six consecutive terms) certificate program. The University of Pittsburgh Dental Hygiene Program differs from other programs by providing a broader range of experiences in specialty clinics within the School of Dental Medicine, as well as clinical rotations at the University of Pittsburgh Medical Center. The major areas of focus are teaching, research, patient treatment, health management, and community service. Dental hygiene services are rendered to a wide variety of patients including pediatric, geriatric, physically and mentally challenged, and immunocompromised individuals. In addition to clinical practice, graduates are prepared for careers in areas such as education, research, marketing, and administration.

Students who complete the Dental Hygiene Program certificate have the option of completing a Bachelor of Science degree offered through the College of General Studies. The degree completion option includes three areas of study focusing on a student's specific career goals. These areas include dental hygiene education, research, and health management. Hygienists can practice their profession while completing their requirements for the bachelor's degree. Classes are tailored to the student's interests and can be arranged around work schedules. The program provides a firm foundation for those desiring to pursue graduate studies. (See the College of General Studies listing for more information on the Bachelor of Science degree completion option.)

Contact Information

University of Pittsburgh
School of Dental Medicine
Director, Dental Hygiene Program
B-82 Salk Hall Pittsburgh, PA 15261-1937
412-648-8432
Riccelli@vms.cis.pitt.edu
http://www.dental.pitt.edu/dental_hygiene/about.html

Admission Requirements and Deadlines: Certificate Program

(See Dental Hygiene Program listing under the Application for Admission section at the front of this bulletin for requirements and deadlines.)

Academic Standards: Professional/ Ethical Conduct Statement for Students

Students will be evaluated on all aspects of professional behavior and ethical conduct. The evaluation will encompass criteria such as the student's interpersonal interaction with faculty, supervisors, staff, patients, and peers, as well as how the student completes all clinical and didactic assignments within scheduled deadlines and in keeping with both the quality and standards established by the Dental Hygiene Program, School of Dental Medicine faculty, and the University of Pittsburgh faculty. Additionally, student compliance with all established policies and procedures will be evaluated when considering student promotion and board eligibility.

Grading

Each dental hygiene course instructor will clearly state his/her policy regarding grades and evaluation at the beginning of the course. A written document will be distributed to all students at the first class meeting. All required courses are graded according to the University's letter grade system (see Grading and Records section of this bulletin). Elective courses beyond the required number may, with the permission of the faculty, be taken as Satisfactory or Audit. Student advising begins with the faculty responsible for the course. It is the student's responsibility to seek assistance from the faculty in any course in which the student has a grade lower than a C.

Certificate Program Requirements

For a complete list of the required courses, please refer to the program curriculum. Upon successful completion of the course requirements, the student is eligible to take the Dental Hygiene National Board and the Northeast Regional Board Examinations and apply for state licensure.

Dental Hygiene Certificate Program Curriculum

FIRST TERM		CREDITS
DENHYG	1110 Biological Sciences 1	3
DENHYG	1112 Introduction to Dental Hygiene	3
DENHYG	1113 Introduction to Dentistry	3
DENHYG	1113 Introduction to Dentistry (Laboratory)	0
DENHYG	1114 Dental Anatomy	2
DENHYG	1116 Dental Hygiene Practicum	2
DENHYG	1117 Survey of Chemistry, Biochemistry, and Nutrition	5
		18

SECOND TERM		CREDITS
DENHYG	1241 Microbiology	4
DENHYG	1242 Biological Sciences 2	3
DENHYG	1244 Communications	3
DENHYG	1245 Dental Radiology 1	2
DENHYG	1246 Microbiology Laboratory	0
DENHYG	1247 Dental Hygiene Seminar 1	1
DENHYG	1248 Dental Materials	2
DENHYG	1249 Dental Hygiene Clinic 1	2
		17

THIRD TERM		CREDITS
DENHYG	1370 Periodontology	3
DENHYG	1372 General and Oral Pathology	3
DENHYG	1373 Biological Sciences 3	3
DENHYG	1375 Anesthesia and Medical Emergencies	2
DENHYG	1376 Radiology 2	1
DENHYG	1377 Dental Hygiene Seminar 2	1
DENHYG	1379 Dental Hygiene Clinic 2	3
		16

FOURTH TERM		CREDITS
DENHYG	1411 Pharmacology	2
DENHYG	1412 Public Health Dentistry	3
DENHYG	1414 Gerontology	3
DENHYG	1417 Dental Hygiene Seminar 3	1
DENHYG	1419 Dental Hygiene Clinic 3	4
DENHYG	1420 Ethics	3
		16

FIFTH TERM		CREDITS
DENHYG	1544 Introduction to Research Analysis	3
DENHYG	1545 Dental Health Education Methods and Practicum	4
DENHYG	1547 Dental Hygiene Seminar 4	1
DENHYG	1549 Dental Hygiene Clinic 4	5
		13

SIXTH TERM		CREDITS
DENHYG	1682 Basic Psychology	3
DENHYG	1689 Advanced Clinical Dental Hygiene Practicum	2
		5

	TOTAL	**85**

Bachelor of Science Degree Completion Program

Students who complete this program also have the option of going on to complete a Bachelor of Science in dental hygiene as offered by the College of General Studies (see CGS listing for information on BS degree completion option and additional dental hygiene courses which must be taken for the BS).

School of Dental Medicine Course Offerings

These are the courses offered by the School of Dental Medicine Dental Hygiene Program toward the certificate in dental hygiene:

DENHYG	1110	Biological Sciences 1
DENHYG	1112	Introduction to Dental Hygiene
DENHYG	1113	Introduction to Dentistry
DENHYG	1113	Introduction to Dentistry (Laboratory)
DENHYG	1114	Dental Anatomy
DENHYG	1116	Dental Hygiene Practicum
DENHYG	1117	Survey of Chemistry, Biochemistry, and Nutrition
DENHYG	1241	Microbiology
DENHYG	1242	Biological Sciences 2
DENHYG	1244	Communications
DENHYG	1245	Dental Radiology 1
DENHYG	1246	Microbiology Laboratory
DENHYG	1247	Dental Hygiene Seminar 1
DENHYG	1248	Dental Materials
DENHYG	1249	Dental Hygiene Clinic 1
DENHYG	1370	Periodontology
DENHYG	1372	General and Oral Pathology
DENHYG	1373	Biological Sciences 3
DENHYG	1375	Anesthesia and Medical Emergencies
DENHYG	1376	Radiology 2
DENHYG	1377	Dental Hygiene Seminar 2
DENHYG	1379	Dental Hygiene Clinic 2
DENHYG	1411	Pharmacology
DENHYG	1412	Public Health Dentistry
DENHYG	1414	Gerontology
DENHYG	1417	Dental Hygiene Seminar 3
DENHYG	1419	Dental Hygiene Clinic 3
DENHYG	1420	Ethics
DENHYG	1544	Introduction to Research Analysis
DENHYG	1545	Dental Health Education Methods and Practicum
DENHYG	1547	Dental Hygiene Seminar 4
DENHYG	1549	Dental Hygiene Clinic 4
DENHYG	1682	Basic Psychology
DENHYG	1689	Advanced Clinical Dental Hygiene Practice

■ SCHOOL OF EDUCATION

The School of Education's mission is to create and disseminate knowledge that improves teaching and learning and to develop and implement effective programs for the preparation of education professionals who will enhance both the practice and outcomes of education. For general information, see www.education.pitt.edu.

The School of Education is organized into four academic departments:

- Department of Administrative and Policy Studies
- Department of Health, Physical, and Recreation Education
- Department of Instruction and Learning
- Department of Psychology in Education

Undergraduate degree programs are offered in the Department of Health, Physical, and Recreation Education (HPRED) and the Department of Psychology in Education (PIE). HPRED offers the baccalaureate program in movement science with specializations in exercise science, wellness, and coaching; PIE offers the baccalaureate program in applied developmental psychology.

Teacher certification programs are offered in the Department of Instruction and Learning at the graduate level only. No teacher certification programs are offered in the other three departments.

Undergraduate students interested in obtaining teacher certification at the University of Pittsburgh after they have earned their baccalaureate degrees are encouraged to contact the pre-admissions advisors in the School of Education early in their undergraduate programs in order to obtain information about the teacher certification programs available and the requirements of those programs. Admission for teacher certification study requires that applicants have completed liberal studies distribution requirements in the humanities, natural sciences, and social sciences, as well as course work in an academic major field or content area. Additionally, applicants to the Professional Year (PY) Program are expected to have completed a minimum of 9 credits in preprofessional education courses (i.e., courses emphasizing human development and learning, the study of schools and society, and an introduction to teaching seminar in the intended certification area). The number of credits and specific courses required vary by type and area of certification. Note, however, that all applicants to both the PY Program and the Master of Arts in Teaching (MAT) Program must have at least 6 semester hour credits or the equivalent in college-level mathematics, at least 3 semester hour credits or the equivalent in college-level English composition, and at least 3 semester hour credits or the equivalent in college-level American and/or British literature. For admission to teacher certification programs in the Department of Instruction and Learning, all students must have taken and passed the Praxis I Series of Tests, which includes reading, mathematics, and writing. As a point of general information, most students admitted to the PY and MAT Programs have undergraduate quality point averages (QPAs) of at least 3.0. Specific information may be obtained

from the Student Service Center, 5N Wesley W. Posvar Hall, 412-648-2230, soeinfo@pitt.edu.

Admissions

The School of Education does not admit students to its undergraduate programs at the freshman level. Therefore, students must first be admitted to another school at the University of Pittsburgh or to another institution.

If an applicant to a School of Education undergraduate program is currently a University of Pittsburgh student, the applicant should contact the dean's office of the school to which the applicant has been admitted and request an Undergraduate Academic Program Change form. After completion of this form, all records will be transferred to the School of Education, Student Service Center, 5N Wesley W. Posvar Hall, for review.

If an applicant to a School of Education undergraduate program is transferring from another institution, the applicant should contact the Office of Admissions and Financial Aid, Alumni Hall, for a Transfer Application. (See Transfer Student Admissions section of this bulletin for more information.)

Academic Standards

All students enrolled in undergraduate programs in the School of Education are required to maintain a quality point average (QPA) of at least 2.50. The cumulative QPA is based on all course work taken after enrollment at the University of Pittsburgh. A student is automatically placed on academic probation when the cumulative QPA, exclusive of transfer credits, falls below 2.50. Ordinarily, students are required to terminate study after two terms on probation if there is no improvement in the quality of their work.

Advising

Each student admitted to the undergraduate program in the School of Education is assigned an advisor.

Degree Requirements

The undergraduate degree in the School of Education requires the satisfactory completion of a minimum of 120 credits of approved undergraduate study. Undergraduate degrees are conferred only on those students who have completed all courses required for the degree with a QPA of at least 2.50.

Students in the School of Education must complete at least 60 credits in courses offered at the University of Pittsburgh. They must be enrolled in the School of Education during the term the degree is awarded. Students who begin their study at the regional campuses must apply to relocate to the Pittsburgh campus for at least the last 60 credits.

Program Descriptions

APPLIED DEVELOPMENTAL PSYCHOLOGY

At the undergraduate level, the goal of the program in applied developmental psychology is to prepare the graduate for high quality developmental service to children, youth, and families and to undertake responsibility as a child development specialist in a variety of settings: preschools, day care centers, day and residential treatment programs, in-school and after-school developmental programs, community mental health agencies, detention centers, psychiatric centers, pediatric healthcare programs, and home-based care and treatment. Completion of the program leads to the Bachelor of Science degree. The progam also prepares interested students for graduate study.

The objectives of the program are to

- Provide knowledge of child and youth development in a family and life span context;
- Combine classroom and practial work to provide the theory and research base with opportunity for observation, direct application, and guided skill development; and
- Develop skills in the use of relationships, activity media, environmental design, and program planning to foster developmental and therapeutic goals.

Contact Information

University of Pittsburgh
School of Education
Department of Psychology in Education
5T Wesley W. Posvar Hall
Pittsburgh, PA 15260
412-624-7230
narr@pitt.edu
www.education.pitt.edu

Admissions

The program in applied developmental psychology uses a rolling admissions procedure with a final deadline of April 15. In reviewing applications for admission, the Admisisons Committee considers the following factors:

- Academic skill as evident on the students's transcript. The minimum acceptable QPA is 2.50;
- Documented evidence of experience and ability to work with children (experience may include volunteer work or employment); and
- References, preferably from professionals familiar with the student's maturity, work habits, academic ability, and experience with children/youth.
- Completion of 60 credits before the first term of enrollment in the program, including the following prerequisite courses, all of which should be taken for a letter grade:
    - English composition (3 credits);
    - Developmental psychology or equivalent (3 credits); and
    - Other courses broadly distributed in the humanities, social sciences, and natural sciences.

Credits awarded from the College Level Examination Program (CLEP) by the College of General Studies are acceptable for inclusion in the 60 credits.

The program welcomes applications from junior and community college students and from students at other colleges and universities, including students from other countries.

These students should see the Transfer Student Admissions or International Student Admissions sections of this bulletin for further details on applying. Students from other academic backgrounds should consult the program coordinator for evaluation.

Interested students may apply for early admission to the School of Education's master's degree programs in early childhood education and early intervention and qualify for the degree by taking courses in addition to the ones listed under Major Requirements below and by completing a postbaccalaureate year.

Major Requirements

The curriculum is organized into four terms of upper-division (junior- and senior-year) study. Study encompasses developmental theory and research from birth through adolescence, professonal issues, family dynamics, cultural distinction, handicapping conditions, psychopathology, curriculum and activity planning, practice skills, and an introduction to management. Students spend 300 to 600 hours of internship in the senior year in programs for children, youth, and families, including those with special needs. Flexibility in the curriculum is provided through electives, internship focus, and class project topic selection.

To graduate, students are required to take a minimum of 120 credits, 46 of which must be taken in the applied developmental psychology courses listed below. All of these courses must be completed with a grade of C- or better, and students must maintain a QPA of 2.50 in the major. Students must also perform successfully in the internship, according to prevailing standards, in order to remain in good standing in the program.

Applied Developmental Psychology

PSYED	1002	Child Development
PSYED	1007	Methods of Research and Practice
PSYED	1012	Developmental Disabilities
PSYED	1013	Developmental Psychopathology and Counseling Skills
PSYED	1016	Developmental Curriculum and Activities
PSYED	1024	Family Dynamics
PSYED	1025	Professional Seminar
PSYED	1027	Child and Youth Development 2
PSYED	1028	Developmental Practice Seminar 1
PSYED	1029	Developmental Practice Seminar 2
PSYED	1031	Senior Project
PSYED	1032	Psychosocial Aspects of Illness
PSYED	1036	Developmental Meaning of Cultural Distinction
PSYED	1042	Child and Youth Work Practice 1
PSYED	1043	Child and Youth Work Practice 2
PSYED	1050	Supervision and Administration in Child and Youth Work Settings
PSYED	1099	Directed Practice

Elective courses and directed study can also be arranged.

MOVEMENT SCIENCE

The baccalaureate program in movement science leads to the BS degree and provides specializations in exercise science, wellness, and coaching. The exercise science specialization is offered for students interested in the study of human movement, independent of its implications for teaching physical education in traditional elementary and secondary school settings. Students are prepared for careers as health-related physical fitness specialists interested in working with adult populations in community, corporate, and private fitness centers. Also, this specialization provides basic academic and clinical studies for students wishing to pursue graduate work in exercise science.

Wellness and coaching are two new specializations in movement science. The wellness specialization is offered for undergraduates interested in corporate wellness, exercise leadership and programming, public health, and coordination of health-fitness and wellness programs. Students are provided the opportunity for professional focus in one of four areas: aquatics, fitness, aerobics, or aerobic-fitness. This specialization provides appropriate mechanisms to meet the criteria for various professional certifications in this fast-growing and competitive field. The coaching specialization is offered for undergraduates interested in instructing or coaching in performance or athletic settings. Both the wellness and coaching specializations provide basic academic and clinical studies for students wishing to pursue graduate work in physical activity or the public health domain.

Students may also minor in aquatics, fitness, aerobics, aerobics/fitness, coaching, and dance. A minimum of 18 credits is required for each minor. Graduates of any three of the exercise science, wellness, and coaching specializations and any minor programs do not qualify for public school teacher physical education certification.

Contact Information

University of Pittsburgh
School of Education
Department of Health, Physical, and Recreation Education
Trees Hall
Pittsburgh, PA 15260
412-648-8271
hpred@pitt.edu
www.education.pitt.edu

Admissions

Specific requirements for admission to the baccalaureate program in movement science are as follows:

- An application after approximately 45 credits have been completed: these credits should have been taken in courses that meet the general liberal arts and science requirement of the exercise science curriculum;
- A minimum QPA of 2.80 in the natural sciences;
- A demonstration of appropriate health-fitness behaviors as a statement of commitment to the basic philosophy of movement science;
- A statement of career goals and a self-evaluation; and
- Three letters of recommendation and possibly an interview.

Movement Science Curriculum

All students in movement science complete 60 credits of courses in liberal arts and sciences, distributed as follows:

- Communication skills (9 credits)
- Quantitative reasoning (9 credits)
- Humanities (9 credits)
- Sciences (21 credits)
- History, social science, and public policy issues (9 credits)
- General education electives (3 credits)

In addition, all students in movement science complete the following core of 27 credits:

- Biophysical foundations (6 credits)
- Behavioral and sociocultural foundations (6 credits)
- Research methods and practicum (6 credits)
- Health and fitness foundations (9 credits)

Each specialization requires a clinical/field experience and a directed research practicum. These requirements are completed under the direct supervision of a faculty member and may occur in a variety of settings (e.g., health clubs and hospitals). The research experience is typically completed as part of a research team in the Human Energy Laboratory or the Motor Behavior Laboratory.

School of Education Course Offerings

These are the courses offered by the School of Education:

ADMINISTRATIVE AND POLICY STUDIES

ADMPS	0479	Sociology of Education
ADMPS	1001	Social Foundation of Education
ADMPS	1086	Residence Life: Theory and Practice
ADMPS	1089	Special Topics
ADMPS	1098	Service Learning
ADMPS	1360	Peace Movements and Peace Education: Global Perspective

HEALTH, PHYSICAL, AND RECREATION EDUCATION

HPRED	0030	Basketball Officiating
HPRED	0031	Football Officiating
HPRED	0040	Holistic Golf
HPRED	0050	Sports and Drugs
HPRED	0060	Introduction to Dance
HPRED	0098	Foundations of Sport Administration
HPRED	0099	Leadership Intramural Sport
HPRED	0462	Creative Movement
HPRED	0463	Dance Survey
HPRED	0464	Individual Sports
HPRED	0465	Dual Sports
HPRED	0468	Outdoor Pursuits
HPRED	0470	Track and Field
HPRED	0471	Racquet Sports
HPRED	0472	Fundamental Motor Pattern Activities
HPRED	0473	Dance Pedagogy
HPRED	0474	Team Sports 1
HPRED	0475	Team Sports 2
HPRED	0476	Gymnastics
HPRED	0481	Interscholastic Track Coaching
HPRED	0486	Interscholastic Baseball Coaching
HPRED	0487	Interscholastic Basketball Coaching
HPRED	0491	Gymnastics Coaching
HPRED	0496	Interscholastic Swim Coaching
HPRED	0497	Water Safety Instructor
HPRED	1011	Applied Human Anatomy
HPRED	1021	Personal Health
HPRED	1022	First Aid and CPR/Safety Concepts
HPRED	1031	Research in Sports Science
HPRED	1032	Sociocultural Aspects of Movement
HPRED	1033	Human Physiology
HPRED	1041	Motor Learning
HPRED	1042	Physiology of Exercise
HPRED	1043	Motor Development
HPRED	1044	Biomechanics
HPRED	1045	Directed Research Practicum
HPRED	1142	Physiological Basis of Fitness and Sport Conditioning
HPRED	1211	Athletic Injury Prevention
HPRED	1212	Athletic Injury Prevention Lab
HPRED	1233	Principles of Strength and Conditioning
HPRED	1241	Teaching Experience 1
HPRED	1242	Teaching Experience 2
HPRED	1300	Nutrition in Exercise and Sport
HPRED	1431	Drugs and Alcohol in Society
HPRED	1432	Community Health
HPRED	1433	Intro Teaching H&PE
HPRED	1482	Movement Education
HPRED	1490	Health and Physical Education in the Elementary Schools
HPRED	1491	Teaching Health and Wellness in the Elementary Schools
HPRED	1995	Special Topics
HPRED	1996	Clinical Internship
HPRED	1997	Independent Study
HPRED	1998	Directed Study

INSTRUCTION AND LEARNING

I&L	0210	College Reading and Study Skills
I&L	1000	Introduction to Elementary Teaching
I&L	1041	Introduction to Early Childhood Education
I&L	1230	Introduction to English Education
I&L	1252	Introduction to Foreign Language Education
I&L	1260	Introduction to Social Studies Education
I&L	1430	Introduction to Science Education
I&L	1473	Mathematics for Elementary Teachers
I&L	1479	Introduction to Mathematics Education

I&L	1543	Braille
I&L	1553	Sign Language 3
I&L	1554	Sign Language 4
I&L	1557	Sign Language 1
I&L	1558	Sign Language 2
I&L	1580	Foundations of Special Education
I&L	1700	Early Field Experience—Elementary Education
I&L	1701	Early Field Experience—Secondary Education
I&L	1901	Nature of the Young Child

PSYCHOLOGY IN EDUCATION

PSYED	0005	Life Span Development
PSYED	1001	Introduction to Educational Psychology
PSYED	1002	Child Development
PSYED	1003	Adolescent Psychology
PSYED	1007	Methods of Research and Practice
PSYED	1012	Developmental Disabilities
PSYED	1013	Developmental Psychopathology and Counseling Skills
PSYED	1016	Developmental Curriculum and Activities
PSYED	1024	Family Dynamics
PSYED	1025	Professional Seminar
PSYED	1027	Child and Youth Development 2
PSYED	1028	Developmental Practice Seminar 1
PSYED	1029	Developmental Practice Seminar 2
PSYED	1031	Senior Project
PSYED	1032	Psychosocial Aspects of Illness
PSYED	1036	Developmental Meaning of Cultural Distinction
PSYED	1042	Child and Youth Work Practice 1
PSYED	1043	Child and Youth Work Practice 2
PSYED	1050	Supervision and Administration in Child and Youth Work Settings
PSYED	1099	Directed Practice
PSYED	1198	Directed Study

■ SCHOOL OF ENGINEERING

The School of Engineering's undergraduate programs prepare students for entrance into a diverse spectrum of careers, providing both a strong, fundamental engineering education and a thorough understanding of the broader aspects of society. Students have an opportunity to participate in the highly successful Cooperative Engineering Education Program, an increasing number of study abroad opportunities, joint programs with the University Honors College, and a number of certificate programs. Students also have the option of earning a minor or a dual degree from various CAS programs. The curricula provide sufficient flexibility to allow graduates to pursue careers in industry, government, or education, including programs in medicine, law, or business.

Full-time Bachelor of Science in Engineering degree programs are offered on the Pittsburgh campus in the following engineering disciplines: bioengineering, chemical, civil, computer, electrical, engineering physics, industrial, materials science, and mechanical. Special interdisciplinary programs can be structured based upon individual student interest and ability. The Cooperative Engineering Education Program, which alternates terms of relevant work experience with course work, is available for students in all programs except bioengineering; approximately half of the graduating seniors complete at least three co-op rotations. There are also certificate programs in energy resource utilization, product realization, international engineering studies, civil engineering and architectural studies, sustainable engineering, and freshman honors engineering (the Fessenden Honors Engineering Program). Most engineering departments offer minors to students from other engineering and certain CAS programs.

The School of Engineering's mission is to produce highly qualified engineers and creative new technology through academic excellence. Undergraduate education objectives are that

- Students will possess the engineering skills to excel in either the private or public sector.
- Graduates will understand the importance of lifelong learning in adapting to change.
- Graduates will be contributors to society.
- Graduates will possess the skills to be effective participants on a multidisciplinary team and effective communicators.
- Faculty will be effective educators and leaders in their professions.

Contact Information

Prospective Freshman & Transfer Students
University of Pittsburgh
School of Engineering
Freshman Program
B-80 Benedum Hall
Pittsburgh, PA 15260
412-624-9825
freshman@engr.pitt.edu
www.engr.pitt.edu/students/freshman/index.html

Academic Issues
University of Pittsburgh
School of Engineering
Associate Dean for Academic Affairs
323 Benedum Hall
Pittsburgh, PA 15260
412-624-9815
assec@engr.pitt.edu

Administrative Issues
University of Pittsburgh
School of Engineering
Office of Administration
253 Benedum Hall
Pittsburgh, PA 15260
412-624-9800
admin@engr.pitt.edu

Application Procedures

The School of Engineering admits the following applicants to its undergraduate programs through the procedures detailed below:

Incoming Freshmen

The Freshman Engineering Program in conjunction with the University's Office of Admissions and Financial Aid handles admissions to the School of Engineering. (Please see Pittsburgh Campus Freshman Admission section of this bulletin for details.) Approximately 380 freshman enter the School of Engineering each fall; an additional 10 to 15 students begin in the spring.

The School of Engineering sponsors an extensive scholarship program designed to recognize outstanding academic achievement. Through the generosity of alumni, major industrial firms, and individual friends, the school is able to provide scholarships to support a significant number of its students. See Academic Merit Scholarships for deadlines and other information.

Transfer Students from Another College or University

The School of Engineering encourages applications from transfer students. Currently, almost half the students receiving the BSE degree transferred into the school. Transfer applicants are evaluated according to their academic record and potential for completing the particular engineering program. An applicant for transfer to the School of Engineering from another college or university should request a transfer application from the Office of Admissions and Financial Aid.

Contact the Freshman Engineering Program at 412-624-9825 or at freshman@engr.pitt.edu, or see the transfer engineering students' Web site www.engr.pitt.edu/admissions/u_transfer.html for more information on transfer procedures.

A transfer applicant should have a quality point average (QPA) of at least 2.50 (for courses that satisfy School of Engineering requirements) on a 4.00 scale at the institution previously attended. However, due to space limitations, some programs may have substantially higher criteria for transfer students. Transfer applicants are encouraged to meet with the undergraduate coordinator in the department or program of their choice in order to discuss their individual situation. (For more information, visit www.engr.pitt.edu.)

An applicant who has completed fewer than 24 credits of academic work is required to provide SAT I verbal and mathematical reasoning scores and high school academic records. Advanced standing credits will be granted for college course work at another accredited institution depending on grades received and on the relevance of the courses to the applicant's proposed program in the School of Engineering. Only courses in which the applicant received at least a C (2.00 on a 4.00 scale) will be considered for transfer and then only if the courses are an integral part of the proposed degree program.

The School of Engineering has an articulation agreement with the Community College of Allegheny County (CCAC). CCAC students with a cumulative QPA of 2.80 for the required freshman engineering curriculum will be accepted into the engineering program of their choice with the exception of Bioengineering.

Transfer Students from Another University of Pittsburgh Oakland Campus School

Most transfer applicants from other Oakland campus units to the School of Engineering come from either the College of Arts and Sciences (CAS) or the College of General Studies (CGS), although students from any of the University's other schools are eligible for transfer if they meet the School of Engineering's requirements.

An applicant for transfer from CAS should have a minimum cumulative QPA of 2.50 to be considered for transfer.

An applicant for transfer from CGS without advanced standing from another college or university may apply for transfer upon completion of the equivalent of the School of Engineering freshman year (i.e., MATH 0220 and 0230 Analytic Geometry and Calculus 1 and 2; PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2; CHEM 0960 and 0970 General Chemistry for Engineers 1 and 2; and ENGR 0011 and 0012 Introduction to Engineering Analysis and Introduction to Engineering Computing; and two approved humanities and social science courses). A cumulative QPA of at least 2.50 is recommended. CGS students with outstanding academic records are encouraged to apply for admission to the School of Engineering before completing the minimum requirements listed above by initiating the request for transfer in CGS.

The QPA for students transferring into the School of Engineering from another school or campus within the University will be recalculated in accordance with the School of Engineering's policy.

Regional Campus Students

Request forms for relocation from the pre-engineering programs at the Bradford, Greensburg, or Titusville campuses or the Engineering Technology Program at the Johnstown campus are available at each regional campus. Pre-engineering students who have a quality point average of 2.50 or higher in the required engineering curricula are guaranteed relocation to the Pittsburgh campus in the program of their choice. (See the Transfer within University Schools and Regional Campuses section of this bulletin.)

Interdepartmental Transfers

A School of Engineering student whose academic record satisfies the minimum requirements for continued registration may apply for transfer from one engineering department or program to another. To initiate a change of departmental status, the student must complete a Change of Status form, available at the School of Engineering Office of Administration. It is the prerogative of the department or program to which the student desires to transfer to approve or reject a change-of-status transfer request.

Reinstatement

An engineering student in good academic standing who has not attended the University of Pittsburgh for three consecutive terms and has attended no other institution in the intervening period will be considered for reinstatement after making application to the department chair or program director. If the student has attended another institution and completed more than 12 credits, the student must reapply through the University's Office of Admissions and Financial Aid in accordance with the procedure for transfer applicants from other colleges or universities.

A student who has withdrawn while on academic probation may be reinstated only by action of the appropriate faculty committee, typically based upon substantial evidence of a positive change in the student's attitude toward academic work. The student must initiate the request for reinstatement with the departmental chair.

Academic Standards

Each engineering student's academic record is reviewed at the end of each term. To be considered in satisfactory standing, a student must have both term and cumulative quality point averages (QPAs) of 2.00 or higher and be making satisfactory progress toward earning an engineering degree. A student who is not in satisfactory standing will be placed on academic probation and may be subject to dismissal if the situation persists.

Academic records are reviewed for dismissal purposes at the end of each term. Students in the Freshman Engineering Program (FEP) who enter in the fall term may be dismissed from the School of Engineering if they do not attain a cumulative QPA of 1.75 or greater by the end of the spring term and/or if they have not completed the first term of engineering courses.* Further, FEP students with cumulative QPAs between 1.75 and 1.99 by the end of their first academic year who fail to obtain a cumulative QPA of 2.00 by the end of their third semester are subject to dismissal. Students who begin the FEP in the spring term will follow a similar timeline. All other students are subject to dismissal if their cumulative QPA is below 2.00 for two consecutive terms.

*Students must fulfill their Calculus 1, Physics 1, Chemistry 1, Engineering Analysis 1, and English placement (BRW, BW, or GW-I) requirements within the first year of enrollment. Students who do not complete these courses on schedule are subject to dismissal.

Grading Policies

The following section details the School of Engineering's regulations regarding some of the grades that may appear on a student's transcript. (For a complete discussion of all grades and grading options, see the Grading and Records section of this bulletin.)

G Grade (Incomplete)

An instructor may give the G grade when a student is unable to complete the work of a course during the term because of extenuating personal circumstances.

To remove a G grade, a student is expected to complete the course requirements within the next term of registration or within the time specified by the instructor. The instructor of the course will complete a Grade Change Authorization form and send it to the School of Engineering Office of Administration for processing. If a G grade is not removed within one year, the instructor may change it to an F grade for the course.

H/S/U Option

Each program determines which, if any, of its courses may be taken under the honors/satisfactory/unsatisfactory (H/S/U) option. These are so designated in the *Schedule of Classes*. A course in which a U grade is received does not have to be repeated but cannot be used to satisfy degree requirements. H/S/U grades are not considered in the calculation of the quality point average. Undergraduate seminar courses are offered as H/S/U.

Freshmen may not elect to take courses under the H/S/U option. Upper-class engineering students may be permitted to take certain elective courses under the H/S/U option. These are typically technical electives because required CAS humanities and social science courses are not offered under this option. A student who wishes to take a course under the H/S/U option should first consult his/her advisor to assure that it is permissible. A student must register for and complete at least one course for a letter grade to be eligible for an H/S/U option course in any term. To register for more than one H/S/U option course per term, and a maximum of two, a student must register for 12 or more credits for letter grades. Forms and instructions for exercising the option may be obtained in the student's departmental office. (See Grading and Records for more information on the H/S/U option.)

S/N Option (College of Arts and Sciences Courses)

School of Engineering students are not permitted to take College of Arts and Sciences courses under the satisfactory/audit (S/N) option.

Calculation of the Quality Point Average

Each credit carried for a letter grade is awarded quality points as noted under the Grading and Records section of this bulletin. A student's term quality point average (term QPA) is the total quality points earned for the term divided by the total credits assigned letter grades. The cumulative quality point average (cumulative QPA) is determined by dividing the total number of quality points by the total number of credits assigned letter grades. Only credits and quality points for courses taken at the University of Pittsburgh and that count toward the requirement for the BSE degree are used in the calculation of the QPA.

Repeating Courses

The School of Engineering permits a student to repeat required courses in which grades below C were received. However, these courses must be repeated within one academic year following the original registration. If that is done, the original credits and quality points of these repeated courses will not be included in the student's cumulative QPA. A sequence course cannot be repeated and have the grade replaced if a succeeding course in that sequence has been taken (e.g., MATH 0220, 0230, and 240 Analytic Geometry and Calculus 1, 2, and 3; PHYS 0174 and

0175 Basic Physics for Science and Engineering 1 and 2). The same course repeat rules will apply to transfer students from the College of Arts and Sciences, the College of General Studies, and the regional campuses.

Honors Lists

At the end of each term, the academic records of all undergraduate degree students in the School of Engineering are reviewed to determine eligibility for the Term Honor List and the Dean's Honor List. Students who qualify for both honor lists will appear only on the Dean's Honor List.

Term Honor List

To be eligible for the Term Honor List, a student must

- Earn a QPA of at least 3.25,
- Complete a minimum of 15 credits of academic work for letter grades at the University of Pittsburgh, and
- Complete a minimum of 6 credits of work for letter grades in the term of eligibility.

Dean's Honor List

To be eligible for the Dean's Honor List, a student must

- Earn minimum cumulative and term QPAs of 3.25 or higher,
- Complete a minimum of 30 credits of academic work for letter grades at the University of Pittsburgh, and
- Complete a minimum of 6 credits of work for letter grades in the term of eligibility.

Credits

In the School of Engineering, a credit or credit hour is one of the following:

- One hour of lecture or recitation a week, requiring two hours of outside preparation
- Two hours of laboratory a week, requiring one hour of outside preparation
- Three hours of laboratory a week, requiring no outside preparation

Registration

Each student registers for future terms with the assistance of his or her academic advisor during registration periods specified by the Office of the University Registrar. A student who has registered for a course but has failed to satisfy the prerequisites for that course prior to the beginning of the term may not be permitted to continue attending class and must withdraw from the course if requested to do so. Freshman engineering students register for the fall term during the summer advising sessions. (See Registering for Classes for more information.)

Maximum Credit Registration

All full-time undergraduate engineering students are expected to register for a normal full term of academic courses. No student shall be allowed to register for more than 18 credits without specific written permission from his/her academic advisor and approval by the associate dean for academic affairs. Such permission is given selectively and only after a review of the student's record and planned course work suggests that such an overload is academically justifiable. All credits above 18 for undergraduates will be billed over and above the full-time tuition rate at the prevailing per-credit tuition charge.

Registration for Graduate Credit

A School of Engineering undergraduate student who intends to continue toward an advanced degree may arrange to schedule a limited number of courses for graduate credit during the final two terms of registration for the BSE degree. Approval will be granted only if the student's total program for the term does not exceed 18 credits. A maximum of 6 credits can be applied to a master's degree program. These credits will apply only to graduate degree requirements.

Advanced Standing for Courses Taken Outside the University

Students transferring into the School of Engineering from other college-level programs will have their academic records reviewed for advanced-standing credit after they have been accepted for admission. This determination is made by the responsible academic department or program in accord with School of Engineering policy and criteria established by the Accreditation Board for Engineering and Technology (ABET). In general, advanced standing for engineering or engineering science courses will be given only if the courses were taken from an ABET-approved engineering program. Advanced standing for mathematics, science, humanities, and social sciences courses will be awarded to the extent that such courses match specific University of Pittsburgh College of Arts and Sciences courses that are required by the School of Engineering. In particular, humanities and social sciences courses must correspond to those on the School of Engineering's approved list of humanities and social sciences electives. Contact the school for information on these approved electives.

Credits for students transferring from a college maintaining a 3/2 program with the School of Engineering (see Combined Liberal Arts-Engineering 3/2 Program), a community college having an articulation agreement with the School of Engineering, or a pre-engineering program at a University of Pittsburgh regional campus will be accepted in accord with those agreements and University policy.

Students enrolled in the School of Engineering may take courses at other universities to satisfy graduation requirements only if the student's academic advisor or undergraduate coordinator approves those courses in advance. Such courses must be taken at colleges or universities that offer full four-year degree programs. Engineering and engineering science courses must be taken at an ABET-approved engineering program. Students must earn a grade of C or higher for the course to be accepted and must arrange for their transcript to be sent to their undergraduate coordinator. A student enrolled in the School of Engineering is no longer permitted to take a course at a two-year or community college for transfer credit.

Statute of Limitations

All required academic work for the Bachelor of Science in Engineering degree, including courses for which advanced-standing credit has been granted, must be completed within 12 consecutive calendar years. Under unusual circumstances, a student may, with the approval of the department or program chair, request a waiver of this policy. This policy means that part-time students must progress toward the degree at a minimum rate of 12 credits per calendar year.

Graduation Requirements

In order to graduate with a BSE, a student must have satisfactorily completed all degree requirements and earned the total number of credits required by the department or program in which the student is enrolled. The student must also have obtained a minimum QPA of 2.00 for (a) all required courses completed at the University of Pittsburgh and (b) all departmental courses. Students who have a cumulative QPA of 2.00 for all courses taken but have not obtained the minimum 2.00 departmental QPA may be certified for graduation by the program by repeating all program courses in which a grade below C was awarded and earning a grade of C or better for each repeated course.

Advanced-standing credits accepted by the School of Engineering may partially fulfill course requirements for graduation, but grades and credits earned in such courses are not included in the QPA calculations.

The work of the senior year (a minimum of 26 credits) must be completed while in residence at the School of Engineering, University of Pittsburgh. Exceptions to this regulation may be granted for a limited number of credits through petition to the department or program and approval by the associate dean for academic affairs. This regulation will be waived for students completing an approved study abroad program during their senior year.

(See the Graduation section of this bulletin for further information on graduation requirements and procedures.)

Academic Integrity

The integrity of the academic process requires fair and impartial evaluation on the part of faculty and honest academic conduct on the part of students. Students are expected to conduct themselves with a high level of responsibility in the fulfillment of their course of study. It is the corresponding responsibility of faculty to make clear to students those standards by which they will be evaluated and the resources permissible for use by students during their course of study. The educational process is perceived as a joint faculty-student enterprise that will involve professional judgment by faculty and may involve, without penalty, reasoned exception by students to the data or views offered by faculty. Consistent with these considerations (and without limiting their scope and application in their entirety to the academic programs of the University), faculty and students are directed to observe established guidelines on academic integrity. Copies of both the School of Engineering and the University of Pittsburgh *Guidelines on Academic Integrity* are available to faculty and students in the departmental offices of the School of Engineering.

Assessment

As part of the School of Engineering's commitments to student learning and academic achievement, effective teaching, and continuous improvement of our programs, we regularly conduct outcomes assessment activities. To obtain periodic measurements of student perceptions and intellectual growth, students will be expected to participate in surveys, focus groups, interviews, and related activities. While individual input is collected, the data resulting from these assessments will be published only in aggregate form.

Advising

All students are assigned an advisor and are expected to meet with their advisor prior to registration. The Freshman Engineering Program professional staff serves as the freshman advisors. Throughout the freshman year, students are encouraged to meet with their advisor if they need to register for classes, withdraw from classes, add and/or drop classes, sign up for tutoring, find out about their academic progress, discuss problems they are having in a course, or get help deciding on a program. Freshmen are also assigned a peer mentor from the Freshman Leadership Team. Once students are admitted to a department or program, they are then assigned a faculty advisor. Students who wish to change advisors should meet with the department chair, program director, or undergraduate coordinator to request a change. See www.engr.pitt.edu/students/freshman/advising_admission/advising_admission.html for more information.

General Degree Requirements

The degree requirements are established by the individual departments and programs. Depending on the program, between 123 to 134 credits may be required for the individual degree. Each program's requirements include the common freshman year, a four-course mathematics sequence, and six approved humanities and social science electives (including the W-course requirement). The specific degree requirements are found in the program descriptions below.

Humanities and Social Science Requirement

An important part of the undergraduate engineering student's education is the humanities and social science component. All School of Engineering undergraduates must complete at least six humanities and social science elective courses from the school's approved list of courses, while meeting the school and ABET requirements for breadth and depth. To meet the depth requirement, a student must complete two or more courses (at least one of which must be a course that is not marked *) in one of the following departments or programs from the College of Arts and Sciences. The depth requirement can also be satisfied by taking two or more courses with a related theme, e.g., courses that focus on a geographic region, historic period, or ideological perspective. For the breadth requirements, it is recommended that the courses include approved offerings from at least three different departments from the College of Arts and Sciences.

No more than two of the required six elective courses can be satisfied via high school Advanced Placement credits.

Students must also complete one W-designated course, i.e., a course that has a substantial writing component. Depending on the course, it may also count as one of the humanities/social science electives. The associate dean for academic affairs maintains a list of approved humanities and social science electives.

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's student mentors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the programs of study. All engineering freshmen will participate in the Freshman Engineering Symposium at the end of the academic year. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit www.engr.pitt.edu/students/freshman/index.html.

The freshman-year curriculum is detailed below:

First Term		**CREDITS**
MATH 0220	Analytic Geometry and Calculus 1	4
CHEM 0960	General Chemistry for Engineers 1	3
PHYS 0174	Basic Physics for Science and Engineering 1	4
ENGR 0011	Introduction to Engineering Analysis	3
ENGR 0081	Freshman Seminar 1	0
	Humanities or Social Science Elective*	3
		17

Second Term		**CREDITS**
MATH 0230	Analytic Geometry and Calculus 2	4
CHEM 0970	General Chemistry for Engineers 2	3
PHYS 0175	Basic Physics for Science and Engineering 2	4
ENGR 0012	Introduction to Engineering Computing	3
ENGR 0082	Freshman Seminar 2	0
	Humanities or Social Science Elective*	3
		17

* Students choose electives from an extensive list of more than 400 acceptable College of Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take University External Studies Program (UESP) courses to satisfy the humanities/social science requirement.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Each program is in the process of specifying how this will be accomplished. All students are required to take the University of Pittsburgh English Writing Placement Examination (see www.pitt.edu/~caswww/advising/englishexam.htm for more information on this exam).

Students who receive a score of one or two on the placement exam must take an English composition course during their freshman year that will not count toward Engineering graduation requirements. Students who receive a score of three or higher will have demonstrated to the School of Engineering that they are ready to take a W course. All students must take at least one W course as part of their humanities/social science requirements (students may also satisfy the W requirement by taking a science course with a writing component). In addition, each program is adding substantial communications components throughout the curriculum. Some programs require a specific course in communications.

Major and Degree Options

The following majors (described in the Program Descriptions section) within the School of Engineering offer the Bachelor of Science in Engineering:

- Bioengineering
- Chemical engineering
- Civil engineering
- Computer engineering
- Electrical engineering
- Engineering physics
- Industrial engineering
- Materials science and engineering
- Mechanical engineering

Minors in Engineering

The School of Engineering offers a number of minors to its students who wish to expand their field of knowledge in engineering. Engineering students may also pursue a minor in the College of Arts and Sciences (see CAS section of this bulletin for details on the minors offered within CAS). Engineering students are not permitted to minor in the same field in which they are majoring. Students from outside the School of Engineering may pursue one of these minors with the permission of the given department. Any student interested in a minor should consult with the given department to determine the eligibility and completion requirements for each minor. The minors offered by the school are as follows:

- Bioengineering
- Chemical engineering
- Electrical engineering
- Environmental engineering
- Industrial engineering
- Materials science and engineering
- Mechanical engineering
- Petroleum engineering
- Polymer engineering

Special Academic Opportunities/ Programs

The School of Engineering offers numerous special academic opportunities as detailed in the following pages:

Fessenden Honors in Engineering Program

Outstanding freshman engineering students are eligible for the Fessenden Honors in Engineering Program. Students enrolled in the Fessenden program take University Honors College courses that substitute for regular required course offerings. The program covers the first two terms. Entering freshman students who are in the top 10 percent of their graduating class and have a minimum SAT I score of 1300 are eligible for honors courses. Other interested students are encouraged to seek special permission from the honors college staff. For more information, visit www.honors college.pitt.edu.

Honors courses offered include:

FIRST TERM

Freshman Course	Honors Freshman Equivalent	CREDITS
ENGR 0011	Honors Engineering Analysis (ENGR 0111 or 0711)	3
CHEM 0960	Honors General Chemistry for Engineers 1 (CHEM 0760 or 0765)	3
PHYS 0174	Honors Introduction to Physics for Science and Engineering 1 (PHYS 0475)	4
MATH 0220	Honors Variable Calculus 1 (MATH 0235*)	4
Humanities/ Social Science Elective	Honors Humanities/ Social Science Elective	3
		17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

SECOND TERM

Freshman Course	Honors Freshman Equivalent	CREDITS
ENGR 0012	Honors Introduction to Engineering Computing (ENGR 0112 or 0712)	3
CHEM 0970	Honors General Chemistry for Engineers 2 (CHEM 0770)	3
PHYS 0175	Honors Introduction to Physics for Science and Engineering 2 (PHYS 0476)	4
MATH 0230	Honors Variable Calculus 3 (MATH 0240*)	4
Humanities/ Social Science Elective	Honors Humanities/ Social Science Elective	3
		17

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

College of Arts and Sciences-Engineering Joint Degree Program

The College of Arts and Sciences (CAS) and the School of Engineering have developed an undergraduate joint degree program that permits a student to combine a major in arts and sciences with a program in engineering and then receive degrees from both CAS and the School of Engineering. A student can apply for admission into this program through either CAS or the School of Engineering and must be admitted into both schools.

While the form of the program is dependent upon the individual student's interests, the first year's curriculum is typically the standard engineering program. During the next three years the student may complete the specific requirements for his or her engineering degree while fulfilling certain CAS requirements. Typically, the fifth year is then used to complete the CAS requirements. Students must complete a minimum of 90 CAS credits, including all CAS skills and general education requirements and a CAS major (but not a related area). Students must also complete all the degree requirements of their chosen engineering program, usually consisting of 70 or more School of Engineering credits. Each program should be developed with an advisor in the College of Arts and Sciences and an advisor in the School of Engineering and tailored to the student's special interests. Students in this program have combined engineering with neuroscience, philosophy, economics, music, and a number of the language programs.

Students must satisfy both schools' normal progress requirements and criteria for academic standing as long as they remain in the joint degree program. Students also must apply for graduation from both schools. CAS students earn either a BA or BS degree, depending upon the CAS program of study. The student's QPA for graduation from CAS is calculated based solely upon the credits earned for the CAS degree. For further information, students may contact one of the following: the Freshman Engineering Program Office, B-80 Benedum Hall; an engineering departmental undergraduate coordinator; the CAS Office, 140 Thackeray Hall; the CAS Advising Center, 252 Thackeray Hall; or the University Honors College engineering advisor, 3500 Cathedral of Learning.

Interschool Degree Program with University Honors College

Undergraduate students with exceptional academic ability and motivation may elect to complete the interschool degree program between the School of Engineering and the University Honors College (UHC). Students who have completed the freshman year may apply for degree candidacy in the UHC. Outstanding students enrolled in any of the School of Engineering programs may elect to

complete these interschool degree requirements. In addition, students pursuing either the engineering physics degree or the five-year joint degree program with the College of Arts and Sciences are also encouraged to pursue the honors college degree.

All of the UHC degree programs require independent scholarship and a competency-based evaluation by faculty in the last year. The requirements for independent scholarship entail the completion and defense of a thesis during the junior and senior years. Qualified engineering students may join with an engineering faculty member to propose an individualized plan of study leading to independent scholarship and an honors college degree, provided the basic graduation requirements of the student's engineering department are fulfilled. Students interested in the honors college should contact the dean of the honors college, 3500 Cathedral of Learning, Pittsburgh, PA 15260, or call 412-624-6880. (See the University Honors College section of this bulletin.)

Cooperative Engineering Education Program

The school's Cooperative Engineering Education Program enhances the student engineer's educational experience through a series of challenging, highly relevant "real world" work sessions. This is accomplished by integrating a rotation of school and employment terms that enables the cooperative education student to complement his or her formal classroom training with additional technical knowledge, hands-on experience, and financial remuneration. The co-op graduate possesses the maturity and assurance of a more seasoned employee and the ability to incorporate academic knowledge and theory into practice. During co-op sessions, students earn competitive salaries, which also makes this program financially rewarding. Almost half of the graduating seniors complete the co-op program requirements.

Through the assistance of the School of Engineering's Cooperative Education Office, formal arrangements are established with industry that permit students to rotate four-month terms between the workplace and the classroom. At the University of Pittsburgh, this rotation begins during either the sophomore or junior year and extends into the senior year, with the co-op student completing at least three four-month work periods. These employment sessions, which are typically with the same employer, allow job duties to increase as the knowledge and skills of the student engineer progress. The positions can be local, national, or international. This practical work experience has also been found to increase academic motivation and classroom performance. Co-op students are aware of business practice and etiquette and possess a mature, responsible attitude. Thus, upon graduation, many former co-op students are able to handle difficult initial assignments with confidence and assurance.

Students receive academic credit for participation in the program. A maximum of 3 credits can be earned toward the completion of departmental requirements. The co-op program offers resume preparation and interviewing skills workshops in order to facilitate appropriate placements for students.

Sample Co-op Schedules

SCHEDULE A

	Fall (Sept.–Dec.)	**Spring** (Jan.–April)	**Summer** (May–Aug.)
First Year	School	School	
Second Year	School	School	**Work***
Third Year	**Work**	School	**Work**
Fourth Year	School	**Work**	School
Fifth Year	School		

**optional*

SCHEDULE B

	Fall (Sept.–Dec.)	**Spring** (Jan.–April)	**Summer** (May–Aug.)
First Year	School	School	
Second Year	School	School	**Work**
Third Year	School	**Work**	School
Fourth Year	**Work**	School	**Work**
Fifth Year	School		

SCHEDULE C

	Fall (Sept.–Dec.)	**Spring** (Jan.–April)	**Summer** (May–Aug.)
First Year	School	School	
Second Year	School	**Work**	School
Third Year	**Work**	School	**Work**
Fourth Year	School	**Work**	School
Fifth Year	School		

For more information, please contact: Cooperative Engineering Education Program, B-80 Benedum Hall, Pittsburgh, PA 15260, 412-624-9826, barcic@engr.pitt.edu, or see www.engr.pitt.edu/coop/index.html.

Engineering-School of Education Certification Program

Engineering students may apply for a fifth-year program that leads to mathematics, science, or chemistry teaching certification from the School of Education. Students who complete this program are qualified to teach in the Commonwealth of Pennsylvania. Students interested in pursuing this option should apply prior to the start of their junior year.

Certificate Programs

School of Engineering undergraduate students are encouraged to broaden their educational experience by electing to take one of the certificate programs currently offered by the College of Arts and Sciences, the University Center for International Studies (UCIS), or the School of Engineering. These certificate programs may be used by the engineering student to partially fulfill the humanities/social sciences requirement, thereby allowing specialization in an area of interest while pursuing an engineering degree. The requirements for each certificate vary, and students should contact the appropriate certificate program director.

The School of Engineering offers six certificates at the undergraduate level:

CIVIL ENGINEERING AND ARCHITECTURAL STUDIES

The Civil Engineering and Architectural Studies Certificate has been created for the architectural studies student. The certificate is described below under the Architectural Studies Joint Programs.

ENERGY RESOURCE UTILIZATION

The Energy Resource Utilization Certificate is designed for those students interested in both the development of new energy resources and the study of existing ones. Students in the School of Engineering may earn a certificate in energy resource utilization by completing two 6-credit courses. The first course, Energy Today, offered by the Chemical and Petroleum Engineering Department at the University of Pittsburgh, examines current technologies that supply energy from coal, petroleum, gas, and uranium. The second course, Energy Beyond 2000, offered by the University of New South Wales in Sydney, Australia, examines energy efficiency and renewable energy technologies and those techniques that will be used in the future to reduce dependence on fossil fuels. Both courses are offered in the summer term: Energy Today from mid-May to mid-June, and Energy Beyond 2000 from late June to early August.

FRESHMAN HONORS ENGINEERING (FESSENDEN HONORS IN ENGINEERING PROGRAM)

The certificate, jointly sponsored by the School of Engineering and the University Honors College, is a program of classes for self-selecting, high-achieving engineering students. The certificate addresses humanities works in relation to engineering, the relationship between the sciences and the humanities as a place of rich learning while acknowledging the scholarly merits of program participants.

INTERNATIONAL ENGINEERING STUDIES

An innovative International Engineering Certificate Program has been created for those students who elect a study abroad engineering experience. Students in the School of Engineering may earn a Certificate in International Engineering Studies (IES) by completing a minimum set of requirements that include a study abroad or co-op work experience and associated cultural enrichment and language studies. Students who study or work in English-speaking countries as well as those who participate in the Semester at Sea program are also able to earn the certificate by fulfilling special requirements. The certificate appears on the student's transcript.

PRODUCT REALIZATION

Employers now seek engineers with skills in these technologies and who are able to work under the added pressure of moving products from conception to market in extremely short time periods. With this increased emphasis on minimizing the time to market, it has become essential for engineers to integrate marketing and business strategies with new products design skills. The Product Realization Certificate cuts across the School of Engineering and into the College of Business Administration of the Joseph M. Katz Graduate School of Business. The objectives of the certificate in product realization are to close the current competency gaps that exists between academia and industry in the areas of design and product creation and to create a benchmark educational program that can serve as a model throughout academia.

The Certificate in Product Realization specifically targets competency gaps that exist in the following educational areas: computational analysis methods, virtual and rapid prototyping techniques, micro-electronic mechanical systems (MEMS), digital control systems and wireless communication, and business aspects of product creation. Course work takes advantage of state-of-the-art facilities that currently exist in the Swanson Center for Product Innovation (SCPI). The certificate is designed for undergraduate engineering students, as well as qualified students in the College of Business Administration with an interest in new product development. Students from the bio, industrial, mechanical, and electrical/computer engineering programs may be most interested in obtaining the certificate. Students take a total of five courses to include at least one College of Business Administration course, two engineering courses, and the capstone design course, Product Realization.

SUSTAINABLE ENGINEERING

An undergraduate Certificate in Sustainable Engineering is being offered to all students enrolled in any program within the School of Engineering. The certificate is housed in the Department of Civil and Environmental Engineering and administered by the director of the Green Construction and Sustainable Development Program. The certificate will provide interested students with an awareness and sensitivity to environmental issues and consequences of engineering systems consistent with their engineering major. To earn this certificate, each student must show cooperative learning and investigative skills along with course work emphasizing elements of technological and social sustainability (12 credits) and an overall QPA of 2.25 or greater. The certificate will be listed on this student's transcript. Interested students should see both their undergraduate coordinator and the director of the Green Construction and Sustainable Development Program in the Department of Civil and Environmental Engineering.

Architectural Studies Joint Programs

The Department of Civil and Environmental Engineering and the Architectural Studies Program of the College of Arts and Sciences have developed options that enable students in one area to pursue course work in the other. The Architectural Studies Program is an undergraduate, preprofessional curriculum devoted to the study of the constructed environment. Students interested in these options should see both the civil and environmental engineering undergraduate coordinator and the director of the Architectural Studies Program.

Certificate in Civil Engineering and Architectural Studies (for Architectural Studies majors)

An architectural studies major in the College of Arts and Sciences may pursue the certificate program in civil engineering and architectural studies offered by the Department of Civil and Environmental Engineering. This option provides the architectural studies student with a significant career advantage in seeking either admission to a graduate professional program or employment. To receive the certificate, the architectural studies student must complete the following set of courses:

Course		CREDITS
MATH 0240	Analytic Geometry and Calculus 3	4
ENGR 0131	Statics for Civil and Environmental Engineers	3
ENGR 0141	Mechanics of Materials for Civil and Environmental Engineers	3
ENGR 0151	Dynamics for Civil and Environmental Engineers	3
CEE 1330	Introduction to Structural Analysis	4
and either		
CEE 1340	Concrete Structures 1	3
or		
CEE 1341	Steel Structures 1	3

And two from the following list (if both CEE 1340 and CEE 1341 are taken, only one of these courses is required):

CEE 0109	Computer Methods in Civil Engineering 1	3
CEE 0119	Computer Methods in Civil Engineering 2	3
CEE 1105	Materials of Construction	3
Minimum Total Credits		**26**

Related Area in Architectural Studies for Engineering Students

The related area in architectural studies is intended to offer students majoring in engineering an opportunity to explore the aesthetic side of problem-solving design activity. The selection of courses can be formulated to fit the interests and goals of the individual student. The related area may range from 12 to 15 credits that may be used to partially satisfy the 18-credit School of Engineering humanities/social sciences requirements. Engineering students selecting this option must take HA&A 0040 Introduction to Architecture, and HA&A 1040 History of Architecture Theory is strongly recommended. Students may elect either two or three courses in the history of architecture, e.g., HA&A 0045 Introduction to Modern Architecture, HA&A 1306 High Renaissance Architecture, and HA&A 1160 Roman Architecture or HA&A 1480 Architecture Since 1945 and HA&A 1913 Senior Seminar for Architectural Studies Majors.

Study Abroad

The Study Abroad for Engineers Office, a branch office of the main Study Abroad Office, serves the needs of engineering students who wish to pursue an international experience as part of their undergraduate program. The School of Engineering has designed several study abroad programs and/or is affiliated with other institutions of higher learning for this purpose. Students are encouraged to participate in overseas study and/or internship programs for academic credit during a term, summer, or academic year. These programs, located all over the globe, enable students to become better prepared for their role as engineers in the global marketplace. Students are able to use their campus-based financial aid (loans, grants, and scholarships), with the exception of work-study, for these programs. Call 412-624-5942 or 412-648-7413 (main office), email abroad@engr.pitt.edu, or see www.pitt.edu/~abroad/engrng for more information.

Combined Liberal Arts-Engineering 3/2 Program

The School of Engineering has developed combined liberal arts/engineering dual degree programs with a number of accredited liberal arts colleges. In these "3/2 programs," students first complete a three-year structured course of study at the liberal arts college, including that college's general education requirements, specific introductory courses required for the engineering program of interest, and other courses necessary for acceptance into a School of Engineering program. With the recommendation of the faculty advisor at the liberal arts college, the student applies for transfer to the University of Pittsburgh School of Engineering, spending the final two years in an engineering program. Such programs typically enable the student to earn both a liberal arts degree and an engineering degree.

Pitt EXCEL Program

The Pitt Excellence in Engineering for Tomorrow's Leaders (EXCEL) Program is the in-college component of the Pitt Engineering Career Access Program (PECAP), sponsored by the School of Engineering, the Office of the Provost, and partially supported by the U.S. Department of Education. It is concerned with the recruiting, mentoring, tutoring, and ultimate graduation of women and traditionally under-represented minorities in engineering fields. Its three components include a Summer Engineering Academy (SEA), extensive tutoring and advising, and the Pitt Minority Engineering Mentoring Program (MEMP). Through partial support from the Commonwealth of Pennsylvania through Act 101, the EXCEL program also provides complete academic support services to economically and/or academically disadvantaged students who are Pennsylvania residents.

The EXCEL program provides venues for faculty and staff who assist students in adjusting to college life, planning academic programs, and choosing careers. Faculty and staff work closely with students in the program to solve personal, social, and academic problems that may arise. Tutors are available to all students in the program, and sessions in learning skills are sponsored. To prepare prefreshmen for the college experience, the program sponsors the EXCEL Summer Engineering Academy (SEA). The goal of this six-week program is to assist students in making a smoother transition from a high school curriculum to a college engineering curriculum.

Once at Pitt, SEA students are admitted into the Pitt Minority Engineering Mentoring Program (MEMP). The goal of the engineering mentoring component of EXCEL is to continue to help women and under-represented minority students develop the motivation for an advanced

engineering education beyond the critical freshman and sophomore years and to help transform that motivation into reality by using peer mentors (successful engineering upper class students), faculty mentors (matched according to mutual interest) and full-time professional counselors. The mentoring program is a comprehensive educational plan designed to promote advanced academic achievement and preparedness for an advanced engineering education.

All students in the EXCEL program who qualify for financial assistance are supported. Merit scholarships are also available. The Pitt EXCEL Program maintains contact with Pittsburgh area engineering firms and aids students seeking careers or part-time or summer employment in engineering. For further information, contact:

University of Pittsburgh
Pitt EXCEL Program
B80 Benedum Engineering Hall
Pittsburgh, PA 15261
412-624-9625
impact@engrng.pitt.edu

Precollege Initiatives

CARE Program

The Critical and Analytical Reasoning Enrichment (CARE) Program is a precollege component of the Pitt Engineering Career Access Program (PECAP), sponsored by the School of Engineering and the University of Pittsburgh Office of the Provost, and partially supported by the U.S. Department of Education. The CARE program is a summer residential pre-engineering program that targets under-represented high school students residing in Pennsylvania, Maryland, Ohio, District of Columbia, Virginia, New York, and New Jersey. The goal of CARE is to prepare students for a quality undergraduate engineering education.

The CARE I (pre-11th grade) and CARE II (pre-12th grade) programs work to accomplish this goal by helping students develop critical and analytical reasoning skills that will positively impact their academic performance by the end of their high school senior year. CARE targets those students who are highly motivated and have a strong commitment to pursue an engineering career. For further information, contact:

University of Pittsburgh
Pitt CARE Program
B71 Benedum Engineering Hall
Pittsburgh, PA 15261
412-624-0224
www.engr.pitt.edu/diversity/index.html

Investing Now

Investing Now is a precollege component of the Pitt Engineering Career Access Program (PECAP) and is funded by the University of Pittsburgh School of Engineering. Since 1988, Investing Now has worked in partnership with the Pittsburgh Public Schools to provide an academic enrichment and support program for African American high school students. The program's primary goals are to 1) encourage and support students' enrollment and achievement in advanced mathematics and science courses, 2) increase the number of African American students who enroll in college and pursue mathematics and science-based majors, 3) ensure that participants make informed college choices and are well prepared for matriculation at the University of Pittsburgh or other selective colleges and universities, and 4) support and encourage parents in their role as advocates for their children.

Membership in Investing Now involves a student commitment to attend year-round programming from ninth through 12th grade. Programming focuses on six areas: student support, academic enrichment, college planning, career awareness, cultural awareness, and parent involvement. For further information, contact:

University of Pittsburgh
Pitt Investing Now Program
B71 Benedum Engineering Hall
Pittsburgh, PA 15261
412-624-0224
www.engr.pitt.edu/diversity/index.html

BSE Degree Program Descriptions

Students enter one of the specific engineering major programs below at the sophomore level after successfully completing the Freshman Engineering Program.

BIOENGINEERING

The undergraduate program in bioengineering combines education in engineering and biological sciences, forming a unique experience to prepare students for today's technical challenges in medicine and biology. Our focus is on developing engineers who can apply an analytic approach to solving problems in living systems. Thus, we provide students with a comprehensive education in both engineering and the life sciences. Students enrolled in the program will be prepared for continued graduate studies or a career in a bioengineering-related industry. The program also provides a solid undergraduate education for further studies in a school of medicine.

The major objectives of the bioengineering educational program are to

- Provide students with a strong fundamental understanding of biology, physiology, mathematics, basic engineering principles, and the humanities;
- Provide both a broad knowledge of the technical and social principles of bioengineering and a focused education in one concentration area within bioengineering;
- Provide an educational experience beyond the classroom to deepen an understanding of the technical and nontechnical issues in bioengineering process and design; and
- Provide an individualized education for students specific to their postgraduate goals (i.e., industry, graduate school, or medical school).

Students choose a focus area in the junior year to develop advanced knowledge. There are three areas to choose from: biotechnology, biomechanics, and biosystems. In each case,

the student chooses six courses in bioengineering, life sciences, or other engineering disciplines related to the focus area. Course selection must be approved by the student's advisor and within the guidelines of the focus curriculum. For more information on the bioengineering program, contact bioeng@engr.pitt.edu, or see www.engrng.pitt.edu/bioengineering.

Bioengineering Undergraduate Curriculum
Sophomore Year

THIRD TERM		CREDITS
MATH 0240	Analytic Geometry and Calculus 3	4
BIOSC 0150	Foundations of Biology 1	3
BIOSCI 0050	Foundations of Biology Lab 1	1
CHEM 0310	Organic Chemistry 1	3
CHEM 0330	Organic Chemistry Laboratory 1	1
ENGR 0135	Statics and Mechanics of Materials 1	3
BIOENG 1085	Introduction to Bioengineering: Seminar	0
		15

FOURTH TERM		CREDITS
MATH 0250	Matrix Theory and Differential Equations	4
BIOENG 1210	Bioengineering Thermodynamics	3
BIOSC 0160	Foundations of Biology 2	3
BIOENG 1630	Biomechanics 1: Mechanical Principles of Biological Systems	3
EE 0031	Linear Circuits and Systems 1	3
BIOENG 1085	Introduction to Bioengineering: Seminar	0
		16

* Premed students and/or biotechnology concentration majors should take Organic Chemistry 2 in the fourth term and Mechanical Principles of Biological Systems in the sixth term.

Junior Year

FIFTH TERM		CREDITS
BIOENG 1410	Biological Signals and Systems	3
BIOENG 1220	Biotransport Phenomena	3
BIOSC 1250	Human Physiology	3
BIOENG 1250	Human Physiology Lab	1
	Bioengineering Concentration 1	3
	Humanities/Social Science Elective 3	3
BIOENG 1085	Introduction to Bioengineering: Seminar	0
		16

SIXTH TERM		CREDITS
BIOENG 1002	Intramural Internship *	3
BIOENG 1010	Bio-instrumentation	3
BIOENG 1150	Bioengineering Methods and Applications	3
	Bioengineering Concentration 2	3
	Bioengineering Concentration 3	3
	Humanities/Social Science Elective 4	3
BIOENG 1085	Introduction to Bioengineering: Seminar	0
		18

*Intramural Internship may also be taken during the summer (i.e., sophomore, junior, or senior years). The optional BIOENG 1003 Industrial Internship is to be completed in the summer between the junior and senior years.

Senior Year

SEVENTH TERM		CREDITS
BIOENG 1160	Bioengineering Design 1	3
ENGR 0020	Probability and Statistics for Engineers 1*	4
	Bioengineering Concentration 4	3
	Engineering/Science Elective 1	3
	Humanities/Social Science Elective 5	3
BIOENG 1085	Introduction to Bioengineering: Seminar	0
		16

*ENGR 0020 is offered in all three semesters and can be taken earlier or later.

EIGHTH TERM		CREDITS
BIOENG 1161	Bioengineering Design 2	3
	Bioengineering Concentration 5	3
	Bioengineering Concentration 6	3
	Engineering/Science Elective 2	3
	Humanities/Social Science Elective 6*	3
BIOENG 1085	Introduction to Bioengineering: Seminar	0
		15

*BIOENG 1241 Societal, Political, and Ethical Issues in Bioengineering may be substituted for one of the humanities/social science electives.

CHEMICAL ENGINEERING

Chemical engineering is concerned with processes in which matter and energy undergo change. The range of concerns is so broad that the chemical engineering graduate is prepared for a variety of interesting and challenging employment opportunities. The chemical engineer with his/her strong background in sciences is found in management, design, operations, and research. The chemical engineer is employed in almost all industries including food, polymers, chemicals, pharmaceuticals, petroleum, medical, materials, and electronics. Since solutions to energy, environmental, and food problems must surely involve chemical changes, there will be continued demands for chemical engineers in the future.

The major objectives of the chemical engineering program are to

- Provide students with a broad knowledge of the principles of chemical engineering and their application;
- Provide students with the knowledge and skills required to design and analyze chemical processes, taking into account health, safety, environmental, and societal impacts;
- Provide students with the skills necessary to perform in the multidisciplinary environment of the 21st century; and
- Provide students with appreciation for the value of continuing professional development in maintaining their professional competence.

The chemical engineering faculty have strong interests in transport phenomena, process dynamics, biotechnology, kinetics, catalysis, thermodynamics, industrial wastes, polymers, and energy supply and conversion, especially as related to coal. Petroleum engineering faculty interests are in fluid displacement in porous media and enhanced

oil recovery and reservoir modeling. Courses and research opportunities are available in all of these areas for undergraduate students of demonstrated ability. For more information on these programs, contact che@engr.pitt.edu, or see www.engr.pitt.edu/chemical/undergrad/index.html.

Chemical Engineering Undergraduate Curriculum

Undergraduate chemical engineering courses cover thermodynamics; mass and energy balances; energy, mass, and momentum transfer; unit operations; process dynamics and control; process design; plant design; professional practice; and chemical reaction engineering.

In addition, the curriculum provides a sequence of technical electives that makes possible specialization in some of the most important areas in today's society. Among these are the environmental, biochemical, petroleum, and polymers areas of concentration. Students may select any combination of technical electives. The appropriate selection of electives, however, can lead to a minor or area of concentration. (See Minors in Engineering.)

Students electing the petroleum engineering area of concentration would choose PETE 1160 Petroleum Reservoir Engineering, PETE 1202 Petroleum Drilling and Production, and PETE 1097 Special Projects.

A number of chemical engineering graduates find employment with firms that produce polymeric materials. Those interested in preparing for the area of concentration in polymers would select CHE 1756 Polymerization Engineering, and either CHE 1753 Introduction to Polymer Processing or CHEM 1600 Synthesis and Characterization of Polymers (plus lab).

Students interested in an area of concentration in biochemical engineering should take BIOSC 1000 Biochemistry and CHE 1531 Fundamentals of Biochemical Engineering and one of the following two courses offered by the Department of Biological Sciences: BIOSC 1810 Macromolecular Structure & Function or BIOSC 1850 Microbiology.

Many opportunities exist for sequences of courses in various aspects of environmental engineering. This area of concentration requires students to take CEE 1503 Introduction to Environmental Engineering, CEE 1513 Environmental Engineering Processes, and two of the following three courses: CHE 2610 Atmospheric Pollution Control, CHE 2620 Industrial Waste Management, and CEE 2513 Environmental Impact Assessment.

THIRD TERM		**CREDITS**
MATH 0240	Analytic Geometry and Calculus 3	4
CHEM 0310	Organic Chemistry 1	3
CHEM 0330	Organic Chemistry Laboratory 1	1
CHE 0035	Introductory Chemical Engineering	4
CHE 0036	Chemical Engineering Thermodynamics 1	3
	Humanities/Social Science Elective	3
CHE 1085	Departmental Seminar	0
		18

FOURTH TERM		**CREDITS**
MATH 0250	Matrix Theory and Differential Equations *or*	4
MATH 1270	Ordinary Differential Equations 1	3
CHEM 0320	Organic Chemistry 2	3
CHE 1008	Introduction to Staged Separations	3
CHE 1007	Chemical Engineering Thermodynamics 2	3
	Writing Course Requirement	3
CHE 1085	Departmental Seminar	0
		15 or 16

FIFTH TERM		**CREDITS**
	Advanced Chemistry 1 (Either CHE 1530, CHEM 1410, CHEM 1130, BIOSC 1000, or BIOSC 1810)	3
CHE 1012	Chemical Engineering Reactor Kinetics	3
CHE 1010	Transport Phenomena 1	4
	Engineering Elective (ENGR 0135, ENGR 1869, or ENGR 0022)	3 or 4
	Humanities/Social Science Elective 3	3
CHE 1085	Departmental Seminar	0
		16 or 17

SIXTH TERM		**CREDITS**
CHEM 1480	Intermediate Physical Chemistry	3
	Chemistry Laboratory (Either CHEM 1430, CHEM 1440, or CHEM 0340)	1
CHE 1011	Transport Phenomena 2	4
CHE 1034	Chemical Engineering Process Control	3
	Professional Elective 2	3
ENGR 0020	Probability and Statistics for Engineers 1	4
CHE 1085	Departmental Seminar	0
		18

SEVENTH TERM		**CREDITS**
CHEM 0250	Introduction to Analytical Chemistry	3
CHEM 0260	Introduction to Analytical Chemistry Lab	1
CHE 1013	Chemical Engineering Laboratory 1	3
	Chemical Engineering Elective	3
	Technical Elective	3
	Humanities/Social Science Elective 4	3
CHE 1085	Departmental Seminar	0
		16

EIGHTH TERM		**CREDITS**
CHE 1014	Chemical Engineering Laboratory 2	3
	Humanities/Social Science Elective 5	3
CHE 1045	Chemical Engineering Plant Design	4
CHEM 1047	Chemical Engineering Plant Health and Safety	1
	Chemical Engineering Elective	3
	Humanities/Social Science Elective *6	3
CHE 1085	Departmental Seminar	0
		17

CIVIL AND ENVIRONMENTAL ENGINEERING

Civil engineers are concerned with safeguarding life, health, and property while promoting the general welfare. They are the designers of the public and private works that affect large segments of the population. However, because problems of expanding population and increasing human needs confront

our civilization, the responsibility of civil engineers extends beyond mere physical structures into the social, political, and economic welfare of this and other countries. In brief, the work of the civil engineer has a significant impact on the quality of life in all areas of modern society.

The civil engineer deals in environmental control and in the development or redevelopment of a geographic area through overall planning, as well as in the design, construction, and operation of structures and facilities for public and private use. This broad field of activity includes all types of structures for the following areas: buildings, bridges, and industrial installations; soil mechanics and foundations; transportation, including highways, traffic, airports, and harbors; hydraulic engineering, including irrigation; water resources, including power plants and dams; water supply; waste disposal; air pollution; hazardous and solid wastes; and environmental sanitation. Modern-day requirements have necessitated involvement in the medical and dental fields, oceanography, polar exploration, energy resources, and the space effort.

The major objectives of the civil engineering program are to

- Provide graduates with an education that prepares them to meet the challenges of the civil and environmental engineering professional during their careers;
- Promote scholarship and problem solving skills;
- Provide graduates the opportunity to develop basic skills in communications, leadership and team-building, and basic understanding of the societal context in which engineering is practiced in a global economy;
- Encourage professional development and service; and
- Incorporate interdisciplinary concepts in the educational program.

The undergraduate program begins by providing study in the humanities, social sciences, physical sciences, and mathematics, and proceeds to the fundamental aspects of civil engineering. The curriculum focuses on the electives available for designing individualized programs suited to the student's career goals. Emphasis is placed on societal needs and ways of meeting those needs. Thus, graduates are prepared to begin work in any of the several branches of civil engineering or to continue their education at the graduate level. For more information on the civil and environmental engineering department, contact cee@engr.pitt.edu or see www.engr.pitt.edu/civil/index.html.

Civil Engineering Undergraduate Curriculum

The civil engineering major program is designed for the students who enter the program at the end of their freshman year. Summer programs are available primarily to assist students who are not taking the structured curriculum on schedule. Students are expected to complete all prerequisite courses before advancing to the next term. Beginning with the seventh term, a student may elect to specialize in one of the following areas of concentration: environmental, geotechnical, structural, transportation, water resources, or construction management.

THIRD TERM		CREDITS
MATH 0240	Analytic Geometry and Calculus 3	4
ENGR 0131	Statics for Civil and Environmental Engineers	3
CEE 0109	Computer Methods in Civil Engineering 1	3
ECON 0100	Introduction to Microeconomic Theory	3
CEE 0085 and CEE 1085	Sophomore and Departmental Seminars	0
		13

FOURTH TERM		CREDITS
MATH 0250	Matrix Theory and Differential Equations	4
ENGR 0141	Mechanics of Materials for Civil and Environmental Engineers	3
CEE 0119	Computer Methods in Civil Engineering 2	3
CEE 1105	Materials of Construction	3
ENGR 0151	Dynamics for Civil and Environmental Engineers	3
CEE 1085	Departmental Seminar	0
		16

FIFTH TERM		CREDITS
CEE 1402	Fluid Mechanics	4
CEE 1330	Introduction to Structural Analysis	4
CEE 1503	Introduction to Environmental Engineering	3
CEE 1703	Transportation Engineering	3
CEE 1811	Principles of Soil Mechanics	4
CEE 1085	Departmental Seminar	0
		18

SIXTH TERM		CREDITS
CEE 1211	Resource Use and Environmental Quality in Construction	3
	Civil Engineering Design Elective*	3
	Engineering Elective**	3
CEE 1200	Construction Management	3
CEE 1102	Probability Concepts in Civil and Environmental Engineering	3
IE 1040	Engineering Economic Analysis	3
CEE 1085	Departmental Seminar	0
		18

SEVENTH TERM		CREDITS
CEE	Elective 1**	3
CEE	Elective 2**	3
CEE	Elective 3**	3
	Humanities/Social Science Elective 4**	3
	Humanities/Social Science Elective 5**	3
	Science Elective **	3
CEE 1085	Departmental Seminar	0
		18

EIGHTH TERM		CREDITS
	Humanities/Social Science Elective 6**	3
	Design Project (CEE 1233, 1333, 1433, 1533, 1733, or 1833)	3
CEE	Elective 4**	3
CEE	Elective 5**	3
CEE	Elective 6**	3
CEE 1085	Departmental Seminar	0
		15

* Design electives are CEE 1340 or 1341, 1420 or 2400 or 2401, 1513, 1713 or 1714, and 1821.

** Consult departmental registration guide. These elective courses must meet the student's program needs and certain other requirements.

COMPUTER ENGINEERING

Computer engineers are active in all phases of technology research, design and development, testing, manufacturing, sales, and management. In addition, many successful leaders in other professions, such as law, medicine, and business, use an undergraduate education in computer engineering as preparation for later professional study. The undergraduate curriculum provides preparation in the basic mathematics and physical sciences, coupled with coverage of all aspects of computing, software, hardware, interfacing, and design. The elective structure offers the student opportunities for professional specialization, area specialization within the computing discipline, or interdisciplinary broadening. For more information about the program, contact computer@engr.pitt.edu or see www.engrng.pitt.edu/computer/index.html.

Computer Engineering Undergraduate Curriculum

The sophomore year (terms three and four) starts the student's specialization with courses in programming; data structures; digital logic; computer organization and the digital systems laboratory; as well as linear algebra and differential equations; linear systems and circuits; and electives in the humanities, social sciences, and communications skills. The junior year (terms five and six) develops the student's knowledge in the practical foundations of computer engineering with courses in algorithm design, computer architecture, operating systems, an advanced digital laboratory, and computer interfacing. These are complemented with courses in probability and statistics, as well as with electives in the humanities and social sciences. The senior year (terms seven and eight) continues the foundation sequence with software engineering and then extends the student's experience with both technical and design electives in computer engineering. The rich set of electives available from computer engineering, computer science, telecommunications, and electrical engineering provides the student with exposure to several of the many subdisciplines within the field.

The major objectives of the computer engineering program are to

- Provide students with a balanced coverage of state-of-the-art computer hardware and software;
- Provide students with a strong hands-on design and experimentation environment for hardware and software development, using industry standard facilities;
- Provide students with a balanced educational program which will emphasize the importance of the interaction between technological and societal decisions and to graduate students who will take leadership positions within society at large; and
- Provide each student with a significant design experience through a combination of courses and individual projects.

As indicated, the program has considerable elective flexibility. The humanities and social science electives must be selected from the list of acceptable courses compiled by the School of Engineering. The open elective may be satisfied by any University course, including band, Reserve Officers Training Corps (ROTC), or physical education. Technical electives may include computer engineering; electrical engineering; computer science; or other engineering, mathematics, or basic science courses.

THIRD TERM		CREDITS
COE/CS 0401	Intermediate Programming Using Java	4
COE/EE 0132	Digital Logic	3
COE/EE 0031	Linear Circuits and Systems 1	3
MATH 0250	Linear Algebra and Differential Equations	4
	Humanities/Social Science Elective 3	3
		17

FOURTH TERM		CREDITS
COE/CS 0445	Data Structures	3
COE/EE 0142	or COE/CS 0447 Computer Organization or Computer Organization and Assembly Language	3
COE 0501	Digital Systems Lab	3
COE/EE 0041	Linear Circuits and Systems 2	3
	Communications Skills Elective	3
		15

FIFTH TERM		CREDITS
COE/CS 1541	Computer Architecture	3
ENGR 0020	Probability and Statistics for Engineers 1	4
COE 1502	Advanced Digital Design Concepts	3
COE	Advanced Elective 1	3
	Humanities/Social Science Elective 4	3
		16

SIXTH TERM		CREDITS
COE/CS 1550	Operating Systems	3
COE/EE 1185	Computer System Interfacing	4
COE/CS 1501	Algorithm Implementations	3
COE	Advanced Elective 2	3
	Humanities/Social Science Elective 5	3
		16

SEVENTH TERM		CREDITS
COE	Design Elective 1	3
	Technical Elective	3
COE/EE 1186 *or* COE/CS 1530	Software Engineering	4
COE	Advanced Elective 3	3
	Humanities/Social Science Elective 6	3
		16

EIGHTH TERM		CREDITS
COE	Design Elective 2	3
COE	Advanced Elective 4	3
	Technical Elective	3
	Open Elective	3
	Open Elective	3
		15

ELECTRICAL ENGINEERING

Electrical engineers are involved in research, design, development, testing, manufacturing, sales, and management of electrical systems and devices, such as televisions, wireless telephone systems, computers and computer networks, patient monitoring equipment, and power generation and distribution systems. Many successful leaders in professions such as law, medicine, and business have used an undergraduate education in electrical engineering as preparation for later professional study. The undergraduate curriculum includes required courses in the basic electrical and physical sciences as well as electives that provide the student an opportunity to choose professional specialization or interdisciplinary broadening. The curriculum also includes elective courses in the humanities and social sciences to provide a balanced, liberal education so that the graduate may participate creatively in society and become both an educated and effective citizen.

During the sophomore year, electrical engineering students take courses in calculus, matrix theory, differential equations, basic physics, and communication skills. There are also required electrical engineering courses in linear circuits and systems, digital logic, computer organization, electronics, and a laboratory in electrical measurements. In the junior year, students have required courses in signals and systems, electromagnetics, semiconductor electronics, laboratories in signal processing and electronic circuit design, and two elective courses. During the senior year, the student takes only electives, including electrical engineering (EE) electives, selected from more than 25 offerings, and non-EE elective courses. A capstone of the student's program is the Senior Design elective, in which the student initiates and completes a significant design project. Each term they are on campus, students take the undergraduate EE Seminar, which addresses professional issues and career opportunities for electrical engineers. All EE undergraduate students are required to use computers and computer software in project work and in homework assignments given in required and elective courses.

The educational objectives of the undergraduate electrical engineering program are to

- Produce graduates with a strong foundation in the basic sciences and mathematics that will enable them to identify and solve electrical engineering problems;
- Provide students with a solid foundation in electrical engineering that prepares them for lifelong careers and professional growth in fields of their choice;
- Provide our students with the basic skills to communicate effectively and to develop the ability to function as members of multidisciplinary teams;
- Provide our students with a broad-based education so that they can appreciate diversity of opinion, better understand ethical issues, and develop a more global perspective; and
- Provide our students with a relevant engineering design experience that is integrated across the four-year curriculum. Through those experiences we will develop in our students an understanding of the relationships between theory and practice.

Non-EE elective courses in the undergraduate program include humanities and social science electives, a communication skills course, an open elective, and technical electives. The humanities and social science electives must be selected from the list of acceptable electives compiled by the School of Engineering and available in the department office. The communications skills elective is also chosen from a list available in the department office. The open elective may be satisfied by taking a course that is acceptable for any other elective course category, or by using (for example) 3 credits of band, Reserve Officer Training Corps (ROTC), or chorus. Technical electives may include electrical engineering electives, engineering courses , mathematics courses, or basic science courses. For more information on the program, see www.engr.pitt.edu/electrical or contact eedept@ee.pitt.edu.

Specialization and Interdisciplinary Studies

Specialization is readily available for students with specific career goals. To facilitate specialization, optional areas of concentration have been defined to allow a student to develop strength in a particular area of interest. Areas of concentration that are currently available include computers, electronics, and telecommunications/signal processing. Requirements for the areas of concentration are met by proper selection of design and other elective courses. Students may take some courses in an area of concentration without completing all of the requirements.

For students interested in interdisciplinary studies, special programs can be arranged using the elective structure that exists within the regular electrical engineering curriculum. Formal interdisciplinary programs have been developed through minors offered by other engineering departments. Students may use electives to satisfy both EE and minor requirements.

Electrical Engineering Undergraduate Curriculum

THIRD TERM		CREDITS
MATH 0240	Analytic Geometry and Calculus 3	4
EE 0031	Linear Circuits and Systems 1	3
EE 0132	Digital Logic	3
EE 1885	Departmental Seminar	0
	Humanities/Social Science Elective 3	3
	Communications Skills Elective	3
		16

FOURTH TERM		CREDITS
MATH 0250	Matrix Theory and Differential Equations	4
EE 0041	Linear Circuits and Systems 2	3
EE 0142	Computer Organization	3
EE 0501	Digital Laboratory	3
EE 1257	Analysis and Design of Electronic Circuits	3
EE 1885	Departmental Seminar	0
		16

FIFTH TERM		CREDITS
EE 1247	Semiconductor Device Theory	3
EE 1201	Electronic Measurements and Circuits Laboratory	3
EE 1552	Signals and Systems Analysis	3

EE 1259	Electromagnetics 1	3
	Humanities/Social Science Elective 4	3
EE 1885	Departmental Seminar	0
		15

SIXTH TERM		CREDITS
EE 1212	Electronic Circuit Design Lab	3
EE 1563	Signal Processing Laboratory	3
EE	Elective 1	3
	Technical Elective 1	3
	Humanities/Social Science Elective 5	3
EE 1885	Departmental Seminar	0
		15

SEVENTH TERM		CREDITS
EE	Design Elective	3
EE	Elective 2	3
EE	Elective 3	3
	Technical Elective 2	3
ENGR 0020	Probability and Statistics for Engineers	4
EE 1885	Departmental Seminar	0
		16

EIGHTH TERM		CREDITS
EE	Elective 4	3
EE	Elective 5	3
	Technical Elective 3	3
	Humanities/Social Science Elective 6	3
	Open Elective	3
EE 1885	Departmental Seminar	0
		15

Each student must complete at least five EE elective courses from the following list of breadth electives:

EE	1150	Introduction to Computer Networks
EE	1160	Introduction to Embedded System Design
EE	1170	Special Topics: Computers
EE	1185	Computer System Interfacing
EE	1186	Software Engineering
EE	1232	Introduction to Lasers and Optical Electronics
EE	1236	Electronic Design with Integrated Circuits
EE	1238	Digital Electronics
EE	1240	Photonics 1
EE	1241	Photonics 2
EE	1266	Applications of Fields and Waves
EE	1270	Special Topics: Electronics
EE	1286	Analysis and Design of Analog Integrated Circuits
EE	1390	Introduction to Image Processing/Computer Vision
EE	1472	Analog Communication Systems
EE	1473	Digital Communication Systems
EE	1523	Digital Filter Design
EE	1562	Digital and Analog Filters
EE	1570	Special Topics: Signals and Systems
EE	1580	Biomedical Applications of Signal Processing
EE	1673	Linear Control Systems
EE	1680	Biomedical Applications of Control
EE	1700	Construction and Cost of Electrical Supply
EE	1769	Power Systems Analysis 1
EE	1771	Electric Machinery

Each student must complete at least one EE design elective from the following list of design electives:

EE	1161	Embedded Computer System Design
EE	1192	Introduction to VLSI Design
EE	1193	Advanced VLSI Design
EE	1391	Projects in Computer Vision
EE	1861	Creative Engineering Design
EE	1865	Electric Vehicle Technology and Design
EE	1896	Senior Design Project
EE	1898	Engineering Project

Students are asked to present and demonstrate their design projects at one of the EE department's senior design expos, which are held near the end of the fall and spring terms. These design electives can also be used to satisfy EE elective requirements. However, a given course can only be used to satisfy one requirement.

ENGINEERING PHYSICS

The engineering physics program is designed for those students who have a strong interest in physics combined with a desire to acquire the skills and perspective of engineering. The program combines study in electrical engineering, materials science, and physics. Students are encouraged to pursue the degree, offered jointly by the School of Engineering and the University Honors College (UHC), by completing the engineering physics program and satisfying the special degree requirements of the UHC. This includes either completing and defending a thesis or taking a competency examination administered by the honors college. Students who decide not to seek honors college degree candidacy or who do not satisfy the special degree requirements will, upon successful completion of the curricula, be awarded the BSE from the School of Engineering. Graduates of this program will be well prepared for graduate study in any of its three areas: electrical engineering, materials science, or physics. For more information on the program, contact mjeugrad@engr.pitt.edu or see www.engr.pitt.edu/materials/physics/index.html.

Engineering Physics Undergraduate Curriculum

During the freshman and sophomore years, the student will be given a basic educational foundation in mathematics (calculus, matrix theory) and the fundamental methods and principles of the physical sciences, as well as an introduction to electrical engineering (linear systems, electronics, and computer applications) and materials science. During the junior and senior years, the course work provides a comprehensive knowledge of the branches of physics that are closely related to modern technology. In particular, the student will take physics department courses in optics, electricity and magnetism, mechanics, thermodynamics, and quantum mechanics. Junior and senior engineering studies will stress such related topics as applications of electricity and magnetism, materials science, signal processing, and applied thermodynamics.

The major objectives of the engineering physics program are to

- Provide students with a strong background in mathematics, basic sciences, and engineering fundamentals and to develop design and problem-solving skills that can be applied creatively to current and future technologies;
- Provide an intellectually challenging course of study for high-ability students who have a strong interest in fundamental physics combined with a desire to acquire the design skills and perspectives of an engineer or applied scientist;
- Provide students with a solid foundation for lifelong learning and flexibility to pursue a successful career in a wide variety of specialty areas from research to technical management;
- Provide a solid grounding in the fundamentals of physics, electrical engineering, and materials science and engineering to enable students to successfully complete a graduate program in any of the three disciplines and other areas of basic and applied science; and
- Foster an international perspective and genuine appreciation of the role of science and technology in a global context.

THIRD TERM		CREDITS
ENGR 0022	Materials Structures and Properties	3
MATH 0240	Analytic Geometry and Calculus 3	4
EE 0031	Linear Circuits and Systems 1	3
PHYS 0219	Basic Laboratory Physics for Science and Engineering	2
MSE 0031	Introduction to Materials Laboratory	1
CHE 0036	Chemical Engineering Thermodynamics 1	3
ENGRPH 1803	Departmental Seminar	0
		16

FOURTH TERM		CREDITS
MATH 0250	Matrix Theory and Differential Equations	4
EE 0041	Linear Circuits and Systems 2	3
EE 0257	Analysis and Design of Electronic Circuits	3
EE 1201	Electronic Measurements and Circuits Lab	3
MATH 1560	Complex Variables and Applications	3
ENGRPH 1803	Departmental Seminar	0
		16

FIFTH TERM		CREDITS
MSE 1056	Energetics 2	3
MSE 1054	Materials Science 1	3
MSE 1055	Materials Science 1 Laboratory	1
PHYS 0368	Wave Motion and Optics	3
EE 1247	Semiconductor Device Theory	3
PHYS 0160	Intermediate Electricity and Magnetism	3
ENGRPH 1803	Departmental Seminar	0
		16

SIXTH TERM		CREDITS
PHYS 1150	Mechanics	3
EE 1266	Applications of Fields and Waves	3
PHYS 1119	Principles of Modern Physics 1	3
MSE 1064	Material Science 1	4
	Humanities/Social Sciences Elective 3	3
ENGRPH 1803	Departmental Seminar	0
		16

SEVENTH TERM		CREDITS
PHYS 1170*	Introduction to Quantum Mechanics 1	3
	Elective	3
ENGRPH 1801	Engineering Design 1	3
EE 1552	Signals and Systems Analysis	3
MSE 1168	Electromagnetic Properties of Materials	3
	Humanities/Social Science Elective 4	3
ENGRPH 1803	Departmental Seminar	0
		18

EIGHTH TERM		CREDITS
PHYS 1171*	Introduction to Applications of Quantum Mechanics 2	3
ENGRPH 1802	Engineering Design 2	3
	Humanities/Social Science Elective 5	3
	Humanities/Social Science Elective 6	3
	Electronic Circuit Design Laboratory	3
ENGRPH 1803	Departmental Seminar	0
		15

*Physics Honors Track

INDUSTRIAL ENGINEERING

Significant productivity improvements in industry demand that industrial engineers focus on macro-level structures—a systems approach. Management of industrial, business, and service activities are growing increasingly complex as engineering, the sciences, and the humanities become more interdependent. Organizations need individuals capable of designing, installing, operating, and improving systems that will function efficiently in a society made more complicated by the explosion of technology and information. Management becomes the driving factor: managers direct, coordinate, and control the diverse components of the system; strive to use resources in an optimal manner; and translate discoveries into new products on a timely basis. The Department of Industrial Engineering meets this challenge through an intensive educational program. Building upon a solid foundation in the basic sciences, engineering, and computers, the curriculum provides the student with (1) a capability for systems analysis and design that crosses traditional disciplinary lines and (2) an awareness of and concern for the demands of today's dynamic social systems.

Organizations employing industrial engineers include independent consultants, manufacturers, distributors, banks, hospitals, transportation, energy suppliers, distribution and logistics providers, retail corporations, and government/military and educational institutions. For more information on the industrial engineering program, contact pittie@pitt.edu or see http://ie.pitt.edu.

Industrial Engineering Undergraduate Curriculum

The faculty has committed itself to the broad, multi-disciplinary approach needed to solve problems in today's organizations. Specifically the industrial engineering program objectives are to

- Develop student competency in mathematics, sciences, engineering fundamentals, and computers;
- Provide students with knowledge of modern industrial

engineering principles; methods and tools, including those associated with manufacturing systems; operations research; information systems; human factors; and method analysis;
- Foster in students the ability to visualize engineering problems within a total system context and apply engineering design methods to formulate and solve problems including the ability to recognize problem context and synthesize knowledge and skills from appropriate sources;
- Train students in effective oral and written communications; and
- Graduate students who possess the professional characteristics of leadership, ethics, the ability to work with others, an appreciation for other disciplines, adaptability, and an appreciation for lifelong learning.

In addition to the courses fundamental to industrial engineering, the student will be exposed to humanities and social sciences and will have the opportunity to select four technical electives. The technical electives may be chosen from specialized and advanced offerings of the industrial engineering department. In consultation with the student's advisor, up to two of these electives may be selected from other programs in the University, such as other engineering departments, the sciences, mathematics, business, computer science, or information science. The final term of the program includes a senior design course where students, working in small teams, do a term-long project in an industrial setting. These projects are jointly supervised by a faculty member and an individual from the company. The curriculum is continuously being examined, and improvements are made in order to ensure that students receive the best education. Shown below is the most recent plan of study for students entering the Department of Industrial Engineering.

THIRD TERM		**CREDITS**
MATH 0240	Analytical Geometry and Calculus 3	4
IE 0015	Introduction to Information Systems Engineering	3
IE 1040	Engineering Economic Analysis	3
ENGR 1010	Communication Skills for Engineers	3
ENGR 1035	Statics and Mechanics of Materials 1	3
IE 1085	Departmental Seminar	0
		16

FOURTH TERM		**CREDITS**
MATH 0250	Matrix Theory and Differential Equations	4
IE 1054	Productivity Analysis	3
IE 1061	Human Factors Engineering	3
ENGR 0020	Probability and Statistics for Engineers 1	4
	Humanities/Social Science Elective 3	3
IE 1085	Departmental Seminar	0
		17

FIFTH TERM		**CREDITS**
IE 1071	Probability and Statistics for Engineers 2	3
IE 1081	Operations Research	4
EE 1869	Fundamentals of Electrical Engineering	3
BUSERV 1925	Cost Accounting	3
	Humanities/Social Science Elective 4	3
IE 1085	Departmental Seminar	0
		16

SIXTH TERM		**CREDITS**
IE 1051	Computer Aided Design	3
IE 1052	Manufacturing Processes and Analysis	3
IE 1082	Probabilistic Methods in Operations Research	3
ENGR 0022	Material Structures and Properties	3
	Technical Elective 1	3
IE 1085	Departmental Seminar	0
		15

SEVENTH TERM		**CREDITS**
IE 1035	Engineering Management	3
IE 1083	Simulation Modeling with Arena	3
IE 1056	Production and Inventory Control	3
	Technical Elective 2	3
	Humanities/Social Science Elective 5	3
IE 1085	Departmental Seminar	0
		15

EIGHTH TERM		**CREDITS**
IE 1090	Senior Projects	4
	Technical Elective 3	3
	Technical Elective 4	3
	Free Elective	3
	Humanities/Social Science Elective 6	3
IE 1085	Departmental Seminar	0
		16

MATERIALS SCIENCE AND ENGINEERING

Materials limitations often impede technological and social progress. The materials engineer applies special knowledge of the structure, behavior, and properties of materials to solve these engineering problems. The engineer may be concerned with developing and improving processes for producing metals and alloys or ceramics; developing new alloys or improving existing alloys; and/or achieving better use of alloys and other materials. New materials must be designed for a variety of functions, including structural, esthetic, electrical, or magnetic and operating environments. Materials may come in forms so minute that the work is done under a microscope or in forms so large that special handling cranes are required.

Research efforts in the department involve work on the development of new high-strength steels, corrosion and oxidation, structural and electronic ceramics, smart materials, high-temperature materials, plastic deformation, phase transformations, and strengthening mechanisms. A number of graduate students are engaged in thesis research on these topics, and undergraduates are encouraged to work on related senior projects. For more information on the program, contact mseugrad@engr.pitt.edu or see www.engr.pitt.edu/materials/programs/undergrad.html.

Materials Science and Engineering Undergraduate Curriculum

The undergraduate program is designed to give the student a basic understanding of the structure and properties of

materials, the principles underlying the processing of materials, and the concepts of engineering design and problem solving. Both theory and practice are emphasized. Laboratory courses are integrated into the curriculum, and a variety of professional and engineering science electives are available. When desirable, specialized programs can be arranged for the students with well-defined interests and goals. Students are prepared to accept positions in production, research, and management, in both the basic materials and advanced or "high-tech" materials industries. This versatile education is a strong preparation for graduate work in metallurgy and materials and other related fields.

The major objectives of the materials science and engineering program are to

- Educate students in the basic engineering sciences and to develop problem-solving skills, which can be applied creatively to current and future technologies;
- Provide students with a solid foundation for lifelong learning and continual professional growth in the dynamic field of modern materials science and engineering;
- Provide a solid grounding in the fundamentals of materials science and engineering to enable students to be successful in the most competitive and prestigious graduate programs in the world;
- Prepare students to assume positions in production, research, and management in the materials field; and
- Foster an international perspective and genuine appreciation of the role of science and technology in a global context.

THIRD TERM		CREDITS
MATH 0240	Analytic Geometry and Calculus 3	4
ENGR 0135	Statics and Mechanics of Materials 1	3
ENGR 0022	Materials Structures and Properties	3
MSE 0031	Introduction to Materials Laboratory	1
CHE 0036	Chemical Engineering Thermadynamics 1	3
	Humanities/Social Science Elective 3	3
MSE 1085	Departmental Seminar	0
		17

FOURTH TERM		CREDITS
MATH 0250	Matrix Theory and Differential Equations	4
ENGR 0145	Statics and Mechanics of Materials 2	3
MSE 0040	Introduction to Materials Processing	3
ENGR 0020	Probability and Statistics for Engineers 1	4
	Humanities/Social Science Elective 4	3
MSE 1085	Departmental Seminar	0
		17

FIFTH TERM		CREDITS
MSE 1052	Heat and Mass Transport	3
MSE 1054	Materials Science 1	3
MSE 1055	Materials Science 1 Laboratory	1
MSE 1056	Energetics 2	3
	Humanities/Social Science Elective 5	3
MSE 1085	Departmental Seminar	0
		13

SIXTH TERM		CREDITS
MSE 1070	Mechanical Behavior of Materials 1	3
MSE 1064	Materials Science 2	3
MSE 1067	Materials Processing 1 Laboratory	1
MSE 1163	Ceramic Materials	3
MSE 1272	Physical Metallurgy 1	2
MSE 1273	Physical Metallurgy 1 Lab	1
MSE 1062	Computer Applications in Materials Science	2
MSE 1085	Departmental Seminar	0
		15

SEVENTH TERM		CREDITS
MSE 1080	Mechanical Behavior of Materials 2	3
MSE 1081	Mechanical Behavior 2 Laboratory	1
MSE 1079	Senior Engineering Design 1	2
MSE 1168	Electromagnetic Properties of Materials	3
MSE 1163	Ceramic Materials	3
	Departmental Elective 1	3
MSE 1085	Departmental Seminar	0
		15

EIGHTH TERM		CREDITS
MSE 1089	Senior Project 2	2
	Departmental Elective 2	3
	Technical Elective	3
	Technical Elective 3	3
	Humanities/Social Science Elective 4	3
MSE 1085	Departmental Seminar	0
		14

MECHANICAL ENGINEERING

Mechanical engineering is concerned with both energy use and the design of machines and systems in such sectors as transportation, manufacturing, materials handling, power generation, and environmental control. Mechanical engineers are involved in design, development, research, management, and related activities in these fields. The breadth and diversity of the profession requires an undergraduate curriculum that provides a sound foundation in the basic sciences, computational skills including use of computers, and the fundamentals of engineering and engineering design. This curriculum provides a base for future professional growth and is also an excellent background for those who wish to pursue careers in other professions including management, law, or medicine. With departmental approval, students may select a manufacturing engineering option beginning in the junior year. For more information on the program, contact me@engr.pitt.edu or see www.engr.pitt.edu/mechanical/programs/undergrad.html.

The major objectives of the program are to

- train students in the fundamentals of mechanical engineering analysis, mathematics and sciences, and engineering problem solving;
- provide students with an education that recognizes the breadth of our profession by using modern instructional methods;

- Develop in students skills critical to the design process, including the ability to formulate problems, to communicate effectively, and to work collaboratively;
- Provide and encourage outside the classroom industrial and research engineering experiences that develop the appreciation for lifelong learning; and
- Provide students with a background in the use of modern engineering tools applicable to problems in mechanical engineering.

Mechanical Engineering Undergraduate Curriculum

In the first two years, the mechanical engineering curriculum concentrates on the fundamentals of sciences, mathematics, and engineering. The last two years provide increased depth in the engineering sciences, including fluid mechanics, heat transfer, and systems analysis and also provide exposure to engineering applications, such as mechanical measurements, manufacturing, mechanical design, and thermal systems. Sufficient technical electives are allowed to permit each student to explore areas of special interest.

Course work in the social sciences and humanities is included for the enhancement of the student's awareness of the importance of social, political, and economic problems in the practice of engineering. Where appropriate, the upper-level courses introduce consideration of human values, social benefits, and constraints to prepare future practicing engineers to be responsive to such concerns.

The manufacturing engineering option combines both traditional and newly developed aspects of mechanical engineering. The manufacturing option consists of five courses from the mechanical engineering curriculum in manufacturing or related areas that are selected in consultation with the student's academic advisor. These include ME 1038 Design for Manufacturing and Performance, three manufacturing technical electives, and a manufacturing-oriented senior design project (ME 1043).

THIRD TERM		CREDITS
MATH 0240	Analytic Geometry and Calculus 3	4
ENGR 0135	Statics and Mechanics of Materials 1	3
ME 0024	Introduction to Mechanical Engineering Design	3
ME 0031	Linear Systems Analysis	3
	Communication Skills Elective	3
ME 1085	Departmental Seminar	0
		16

FOURTH TERM		CREDITS
MATH 0250	Matrix Theory and Differential Equations	4
ENGR 0145	Statics and Mechanics of Materials 2	3
ME 0022	Kinematics of Machinery	3
ME 0051	Introduction to Thermo-Fluids Engineering	3
	Humanities/Social Science Elective 3	3
ME 1085	Departmental Seminar	0
		16

FIFTH TERM		CREDITS
ME 1014	Dynamic Systems	3
ME 1041	Fundamentals of Mechanical Measurements 1	3
ME 1028	Mechanical Design 1	3
ME 1051	Applied Thermodynamics	3
	Humanities/Social Science Elective 4	3
ME 1085	Departmental Seminar	0
		15

SIXTH TERM		CREDITS
ENGR 0022	Materials Structures and Properties	3
ME 1029	Mechanical Design 2	3
ME 1042	Mechanical Measurements 2	2
ME 1072	Applied Fluid Dynamics	3
	Humanities/Social Science Elective 5	3
ME 1085	Departmental Seminar	0
		14

SEVENTH TERM		CREDITS
ME 1015	Kinetics	3
ME 1038	Design for Manufacturing	3
ME 1052	Heat Transfer	3
ME	Technical Elective 1	3
	Humanities/Social Science Elective 6	3
ME 1085	Departmental Seminar	0
		15

EIGHTH TERM		CREDITS
ME 1043	Mechanical Measurements 3	3
	Dynamic Systems Elective	3
ME	Technical Elective 2	3
ME	Technical Elective 3	3
ME 1085	Departmental Seminar	0
		12

School of Engineering Course Offerings

These are the courses offered by the School of Engineering:

BIOENGINEERING			CREDITS
BIOENG	1002	Intramural Internship	3
BIOENG	1003	Industrial Internship	1–3
BIOENG	1010	Bioinstrumentation	3
BIOENG	1050	Artificial Organs 1	3
BIOENG	1051	Artificial Organs 2	3
BIOENG	1064	Biomechanics 3: Biomechanics of Tissues and Organs	3
BIOENG	1085	Introduction to Bioengineering: Seminar	0
BIOENG	1150	Bioeng Methods and Applications	3
BIOENG	1160	Bioengineering Design 1	3
BIOENG	1161	Bioengineering Design 2	3
BIOENG	1210	Bioengineering Thermodynamics	3
BIOENG	1220	Biotransport Phenomena	3
BIOENG	1241	Societal, Political, and Ethical Issues in Bioengineering	3
BIOENG	1250	Human Physiology Lab	1
BIOENG	1380	Medical Systems Imaging 1	3
BIOENG	1390	Introduction to Image Processing 3	3
BIOENG	1391	Projects in Computer Vision	3

BIOENG	1410	Biological Signals and Systems	3
BIOENG	1531	Fundamentals of Biochemical Engineering	3
BIOENG	1580	Biomedical Applications of Signal Processing	3
BIOENG	1590	Biomedical Applications of Controls	3
BIOENG	1630	Biomechanics 1: Mechanical Principles of Biological Systems	3
BIOENG	1720	Biomechanics 2: Biodynamics of Movement	3

CHEMICAL ENGINEERING			CREDITS
CHE	0035	Introductory Chemical Engineering	4
CHE	0036	Chemical Engineering Thermodynamics 1	3
CHE	1007	Chemical Engineering Thermodynamics 2	3
CHE	1008	Introduction to Staged Separations	3
CHE	1010	Transport Phenomena 1	4
CHE	1011	Transport Phenomena 2	4
CHE	1012	Chemical Engineering Reactor Kinetics	3
CHE	1013	Chemical Engineering Lab 1	3
CHE	1014	Chemical Engineering Lab 2	3
CHE	1034	Chemical Engineering Process Control	3
CHE	1045	Chemical Engineering Plant Design	4
CHE	1047	Chemical Engineering Plant Health and Safety	1
CHE	1050	Artifical Organs	
CHE	1085	Departmental Seminar	0
CHE	1097	Special Project	1–12
CHE	1412	Computing Methods for Chemical Engineering	3
CHE	1530	Biochemistry for Engineers	3
CHE	1531	Fundamentals of Biochemical Engineering	3
CHE	1753	Introduction to Polymer Processing	3
CHE	1756	Polymerization Engineering	3

CIVIL AND ENVIRONMENTAL ENGINEERING			CREDITS
CEE	0085	Sophomore Seminar	0
CEE	0109	Computer Methods in Civil Engineering 1	3
CEE	0119	Computer Methods in Civil Engineering 2	3
CEE	1085	Departmental Seminar	0
CEE	1086	Honors Seminar	0
CEE	1102	Probability Concepts in Civil and Environmental Engineering	3
CEE	1105	Materials of Construction	3
CEE	1116	Civil Engineering Systems Analysis	3
CEE	1200	Construction Management	3
CEE	1201	Construction Information Systems	3
CEE	1211	Resource Use and Environmental Quality in Construction	3
CEE	1203	Construction Professional Development	3
CEE	1233	Construction Design Project	3
CEE	1330	Introduction to Structural Analysis	4
CEE	1331	Matrix Structural Analysis	3
CEE	1333	Structural Design Project	3
CEE	1340	Concrete Structures 1	3
CEE	1341	Steel Structures 1	3
CEE	1402	Fluid Mechanics	4
CEE	1412	Hydrology and Water Resources	3
CEE	1433	Water Resources Design Project	3
CEE	1503	Introduction to Environmental Engineering	3
CEE	1513	Environmental Engineering Processes	3
CEE	1523	Environmental Engineering Lab	3
CEE	1533	Environmental Engineering Design Project	3
CEE	1703	Transportation Engineering	3
CEE	1713	Highway Engineering	3
CEE	1733	Transportation Design Project	3
CEE	1811	Principles of Soil Mechanics	4
CEE	1821	Foundation Engineering	3
CEE	1833	Geotechnical Design Project	3
CEE	1996	Special Projects	1–4
CEE	1999	Individual Design Project	3

COMPUTER ENGINEERING			CREDITS
COE	0031	Linear Circuits and Systems 1	3
COE	0041	Linear Circuits and Systems 2	3
COE	0132	Digital Logic	3
COE	0142	Computer Organization	3
COE	0401	Intermediate Programming Using Java	4
COE	0441	Discrete Structures for Computer Science	3
COE	0445	Data Structures	3
COE	0447	Computer Organization and Assembly Language	3
COE	0501	Digital Systems Laboratory	3
COE	1185	Computer System Interfacing	3
COE	1186	Software Engineering	3
COE	1192	Introduction to VLSI Design	4
COE	1501	Algorithm Implementation	3
COE	1502	Advanced Digital Design Concepts	3
COE	1520	Programming Languages	3
COE	1530	Software Engineering	3
COE	1541	Introduction to Computer Architecture	3
COE	1550	Introduction to Operating Systems	3
COE	1622	Introduction to Compiler Design	3
COE	1631	Software Design Methodology	3
COE	1885	Departmental Seminar	0
COE	1896	Senior Design Project	3
COE	1898	Engineering Project	1–6

ELECTRICAL ENGINEERING			CREDITS
EE	0031	Linear Circuits and Systems 1	3
EE	0041	Linear Circuits and Systems 2	3
EE	0132	Digital Logic	3
EE	0142	Computer Organization	3
EE	0257	Analysis and Design Electronic Circuit	3
EE	0501	Digital Systems Laboratory	3
EE	1150	Introduction to Computer Networks	3
EE	1160	Introduction to Embedded System Design	4
EE	1161	Embedded Computer System Design	3

EE	1170	Special Topics: Computer	3
EE	1185	Computer System Interfacing	3
EE	1186	Software Engineering	3
EE	1192	Introduction to VLSI Design	4
EE	1193	Advanced VLSI Design	3
EE	1201	Electronic Measurements and Circuits Lab	3
EE	1212	Electronic Circuit Design Lab	3
EE	1232	Introduction to Lasers and Optical Electronic	3
EE	1236	Electronic Design Integrated Circuits	3
EE	1238	Digital Electronics	3
EE	1240	Photonics 1	3
EE	1241	Photonics 2	3
EE	1247	Semiconductor Device Theory	3
EE	1258	Electronics Laboratory 1	2
EE	1259	Electromagnetics 1	3
EE	1266	Applications of Fields and Waves	3
EE	1270	Special Topics: Electronics	1–3
EE	1286	Analysis Design of Analog Integrated Circuits	3
EE	1390	Introduction to Image Processing	3
EE	1391	Projects in Computer Vision	3
EE	1472	Analog Communication Systems/ Computer Vision	
EE	1473	Digital Communication Systems	3
EE	1523	Digital Filter Design	3
EE	1552	Signal and Systems Analysis	3
EE	1562	Digital and Analog Filters	3
EE	1563	Signal Processing Laboratory	3
EE	1570	Special Topics: Signals and Systems	1–3
EE	1580	Biomedical Application of Signal Processing	3
EE	1673	Linear Control Systems	4
EE	1680	Biomedical Applications of Control	3
EE	1700	Construction and Cost of Electrical Supply	3
EE	1771	Electric Machinery	4
EE	1769	Power System Analysis 1	3
EE	1861	Creative Engineering Design	3
EE	1865	Electric Vehicle Technology and Design	3
EE	1869	Introduction to Electrical Engineering for Non-EE Majors	3
EE	1885	Departmental Seminar	0
EE	1896	Senior Design Project	3
EE	1898	Engineering Project	1–6

ENGINEERING			**CREDITS**
ENGR	0011	Introduction to Engineering Analysis	3
ENGR	0012	Introduction to Engineering Computing	3
ENGR	0013	Statics and Particle Dynamics	4
ENGR	0014	Mechanics of Materials	4
ENGR	0020	Probability and Statistics for Engineers 1	4
ENGR	0022	Materials Structure and Property	4
ENGR	0081	Freshman Seminar 1	0
ENGR	0082	Freshman Seminar 2	0
ENGR	0088	Learning and Counseling	0
ENGR	0089	Counseling	0
ENGR	0111	Honors Engineering Analysis	3
ENGR	0112	Honors Intro to Engineering Computing	3
ENGR	0131	Statics for Civil and Environmental Engineers	3
ENGR	0135	Statics and Mechanics of Materials 1	3
ENGR	0141	Mechanics of Materials for Civil and Environmental Engineers	3
ENGR	0145	Statics and Mechanics of Materials 2	3
ENGR	0151	Dynamics for Civil and Environmental Engineers	3
ENGR	0765	Materials Chemistry 1	3
ENGR	1010	Communication Skills for Engineers	3
ENGR	1050	Product Realization	3
ENGR	1051	Business Plan to Product Implementation	3
ENGR	1090	Engineering Cooperative Program	1
ENGR	1091	Chemistry Cooperative Program	1
ENGR	1092	Engineering International Cooperative Program	1
ENGR	1093	Computer Science Cooperative Program	1
ENGR	1500	Ethical Dilemmas When Balancing Cost, Risk, Schedule	3
ENGR	1830	Web Based Interactive Tutorial Design	3
ENGR	1869	Introduction to Electrical Engineering for Non-EE Majors	3

ENGINEERING PHYSICS			**CREDITS**
ENGRPH	1801	Engineering Design 1	3
ENGRPH	1802	Engineering Design 2	3
ENGRPH	1803	Departmental Seminar	0

INDUSTRIAL ENGINEERING			**CREDITS**
IE	0015	Introduction to Information Systems Engineering	3
IE	1014	Data Base Design	3
IE	1029	Knowledge Engineering 3	
IE	1033	Board Governance and Management	3
IE	1035	Engineering Management	3
IE	1039	Entrepreneurship for Engineers	3
IE	1040	Engineering Economic Analysis	3
IE	1051	Computer Aided Design	3
IE	1052	Manufacturing Processes and Analysis	3
IE	1054	Productivity Analysis	3
IE	1055	Facility Layout and Material Handling	3
IE	1056	Production and Inventory Control	3
IE	1057	Computer Aided Manufacturing	3
IE	1058	Automated Data Collection	3
IE	1061	Human Factors Engineering	3
IE	1062	Data Mining	3
IE	1071	Probability Statistics for Engineers 2	3

IE	1075	E-Commerce Tools Productivity	3
IE	1076	Total Quality Management	3
IE	1081	Operations Research	3
IE	1082	Probabilistic Methods in Operations Research	3
IE	1083	Modeling with Arena	3
IE	1085	Departmental Seminar	0
IE	1086	Decision Models	3
IE	1089	Rapid Prototyping and Reverse Engineering	3
IE	1090	Senior Projects	4
IE	1098	Special Projects	1–4

MECHANICAL ENGINEERING			CREDITS
ME	0022	Kinematics of Machinery	3
ME	0024	Introduction to Mechanical Engineering Design	3
ME	1031	Linear Systems Analysis	3
ME	0050	Thermodynamics	3
ME	0051	Introduction to Thermo-Fluids Engineering	3
ME	1014	Dynamic Systems	3
ME	1015	Kinetics	3
ME	1020	Mechanical Vibrations	3
ME	1028	Mechanical Design 1	3
ME	1029	Mechanical Design 2	3
ME	1032	Automotive Fabrication	3
ME	1033	Fracture Mechanics for Manufacturing and Performance	3
ME	1037	Manufacturing Quality Assessment	3
ME	1038	Design for Manufacturing and Performance	3
ME	1041	Fundamentals of Mechanical Measurements 1	3
ME	1042	Mechanical Measurements 2	2
ME	1043	Mechanical Measurements 3	3
ME	1045	Automatic Controls	3
ME	1047	Finite Element Analysis	3
ME	1049	Mechatronics	3
ME	1051	Applied Thermodynamics	3
ME	1052	Heat Transfer	3
ME	1064	Introduction to Biomechanics	3
ME	1065	Thermal Systems Design	3
ME	1072	Applied Fluid Dynamics	3
ME	1085	Departmental Seminar	0
ME	1097	Special Projects	1–4

MATERIALS SCIENCE AND ENGINEERING			CREDITS
MSE	0031	Introduction to Materials Laboratory	1
MSE	0040	Introduction to Materials Processing	3
MSE	0048	Energetics 1	3
MSE	1052	Heat and Mass Transport	3
MSE	1054	Materials Science 1	3
MSE	1055	Materials Science 1 Laboratory	1
MSE	1056	Energetics 2	3
MSE	1062	Computer Applications in Materials Science	2
MSE	1064	Materials Science 2	4
MSE	1067	Materials Processing Laboratory	1
MSE	1070	Mechanical Behavior of Materials 1	3
MSE	1071	Mechanical Behavior 1 Laboratory	1
MSE	1079	Senior Engineering Design 1	3
MSE	1080	Mechanical Behavior of Materials 2	2
MSE	1081	Mechanical Behavior 2 Laboratory	1
MSE	1085	Departmental Seminar	0
MSE	1089	Senior Engineering Design 2	3
MSE	1163	Ceramic Materials	3
MSE	1168	Electromagnetic Properties of Materials	3
MSE	1174	Ceramic Processing	3
MSE	1184	Applications of Ceramics	3
MSE	1272	Physical Metallurgy 1	2
MSE	1273	Physical Metallurgy 1 Laboratory	1
MSE	1276	Process Metallurgy 2	3
MSE	1282	Physical Metallurgy 2	3
MSE	1800	Undergraduate Special Project	1–3

PETROLEUM ENGINEERING			CREDITS
PETE	1097	Special Projects	1–12
PETE	1160	Petroleum Reservoir Engineering	3
PETE	1202	Petroleum Drilling and Production	3

■ COLLEGE OF GENERAL STUDIES

The College of General Studies provides adult and nontraditional students with a wide variety of learning options. Students who enroll in the College of General Studies can complete a Bachelor of Arts or Bachelor of Sciences degree in career-oriented fields as well as in the arts and sciences. In addition to a degree, students may prepare for transfer to any of the University's upper division and professional schools. The college also offers a wide range of certificate programs in specialized fields such as health services, accounting, and information sciences. For those students who already have a degree but desire career-related study or preparation for graduate study, the College of General Studies permits them to register in a nondegree program. The College of General Studies uses the same faculties as the College of Arts and Sciences and the professional schools of the University to provide instruction.

The College of General Studies (CGS) targets its curriculum to adult and transfer students who have been out of high school at least two years. Most of the students attending the college have full-time work or family responsibilities and therefore take full advantage of the unique delivery systems available for instruction. Students may enroll in traditional day classes, evening classes, or Saturday classes; they may attend one of the suburban locations; or they may enroll through the University External Studies Program (UESP).

Contact Information

University of Pittsburgh
College of General Studies
4th floor, Cathedral of Learning
Pittsburgh, PA 15260
Phone: 412-624-6600

Fax: 412-624-3836
cgs@pitt.edu
www.pitt.edu/~cgs

Financial Aid

The Office of Admissions and Financial Aid handles all financial aid processing for College of General Studies students. The telephone number is 412-624-7488.

Placement Information

A full-time placement information consultant is available to assist students with the formulation of career objectives and preparation for the job search. Various placement seminars are offered throughout the year, and a variety of resource materials are available for student use. Consultants can be contacted by calling 412-624-6600.

Registration

College of General Studies students can register in the College of General Studies registration office. That office can be reached by calling 412-624-6600.

Class Locations and Times

Students in the College of General Studies have an array of options for where and when to pursue their course work.

Pittsburgh Campus

The full range of courses offered by the College of General Studies is available at the Pittsburgh campus. The 120-acre campus is located in Oakland, the cultural center of the city.

Off-Campus Program

Off-campus classes are currently offered in Beaver County, Manchester, Mount Lebanon, and Monroeville to increase accessibility to higher education. Courses are offered for degree credit in the arts and sciences and in a few professional areas, but full majors are not available at these off-campus sites. Faculty for all off-campus courses are provided by the academic schools and departments of the University.

External Studies Program

Through the University External Studies Program (UESP), students study at home at their own pace using specially prepared instructional materials. Most courses have at least three on-campus Saturday workshops per term, while some are offered online. CGS courses taken through external studies carry the same credits as those offered on campus; they are taught by University faculty. Various support mechanisms have been developed to provide for additional instructor contact and for course-related communication to students via mail, the Internet, and telephone.

Saturday and Day Classes

Saturday classes are offered on the Pittsburgh campus for students who find Saturday a convenient time to attend class. A selection of courses is also offered on weekday mornings and afternoons for persons who can better attend during the day.

Class Meeting Times

In general, courses meet 50 minutes per week for each credit hour awarded. Most courses are three credits and meet once a week for two-and-a-half hours. The most common class periods are the following: 9 a.m., noon, 3 p.m., and 6 p.m. Courses including recitations or lab sections may have longer class times.

Admission Requirements

Admission to the College of General Studies is handled entirely by the college. The requirements vary based on the program the student is applying to and are detailed as follows.

Degree-Seeking Students

Those students who desire to complete a degree at the University of Pittsburgh, either in the College of General Studies or ultimately transferring elsewhere in the University, are required to apply as degree-seeking students. Students applying as degree-seeking students must provide

- A completed College of General Studies application,
- The $35 application fee,
- A high school transcript, and
- Transcripts from all colleges or universities previously attended.

Once this information has been provided, students will be reviewed for admission. The College of General Studies makes all admission decisions on an individual basis, with past performance and future potential considered. While it is not required, students may supply a personal statement to explain any exceptional circumstances that they believe the Admission Committee of the college should take into account in reviewing their records.

Students must meet a number of specific admissions criteria, depending on their previous experience:

- Less than two years since high school graduation: To be considered for admission, recent high school graduates must apply to the College of Arts and Sciences major and must meet the regular standards for admission as defined by the College of Arts and Sciences. (See Pittsburgh Campus Freshman Admissions section of this bulletin for details.) Students apply for transfer to the College of General Studies after completing 24 credits.
- More than two years since high school graduation: Less weight is given to high school performance. Evidence of maturity, motivation, ability, and consistency as reflected in the fulfillment of adult responsibilities are an important basis for the admission decision.
- GED/high school equivalency: Students scoring at the 50th percentile or higher may be considered for admission.
- Disciplinary dismissal: Students who are dismissed from a college or university for disciplinary reasons must provide documentation from a college official stating the reason(s) for dismissal.

The College of General Studies has special access programs for qualified students. Students do not apply to these programs

but are considered through the normal admission process. Based on a review of their credentials and any supporting documentation, the Admission Committee for the College of General Studies may offer admission subject to a strict set of attendance and performance guidelines. Students admitted under these programs are closely monitored for performance and are required to participate in skills assessment and development programs.

Certificate Program Admission

Students who desire to complete one of the certificate programs in the College of General Studies must follow the same application and admission procedures as those students seeking a degree. The only exception for these students is that they are not required to provide high school transcripts. They are required to provide transcripts from all colleges and universities attended. The certificates offered by CGS are as follows:

- Accounting (postbaccalaureate program)
- Communication
- Community health assessment
- Information system design
- Managing health services programs and projects
- Statistical quality control
- Women's studies
- Writing

Nondegree Admission

Students who already hold a bachelor's degree and desire to complete University course work as preparation for graduate study or for personal or professional interest, but do not desire to complete a second degree, may apply for admission as nondegree students. These students need only complete the application for admission; no transcripts are required for admission. Students who enroll under this program and later desire to earn a degree must provide all transcripts and be reviewed for admission under the normal admission criteria.

Admission Categories

Students are admitted to the College of General Studies under one of the following categories:

Full Status

Full admission entitles students to enroll in classes on a full- or a part-time basis.

Provisional

Provisional admission is granted to those students who do not meet the normal criteria for admission. Students admitted under this status may be limited to 6 credits until they have completed 18 University credits with a 2.00 grade point average or higher. Students admitted as provisional are also limited in their ability to withdraw from classes and make other adjustments to their academic schedules.

Inactive Student Re-admission

Re-admission is necessary for students who have not registered for at least one course in three consecutive terms. Such students are considered "inactive" and must reapply to the College of General Studies before they can register for class, completing all applications and resubmitting all official transcripts, if necessary, and paying the application fee. Students who have not been enrolled in CGS or some other college or school within the University for more than six terms or two calendar years must follow all academic policies in effect at the time of their re-admission to CGS. Students who have not been enrolled for less than the six terms or two calendar years will be treated as continuously enrolled students and as such will have a choice to follow any new policies or those in existence prior to the end of their previous enrollment.

International Admission

International students (applicants from other countries on student visas) who are interested in full-time attendance in programs offered only in the College of General Studies must first contact the International Student Admissions Officer, Office of International Services, 725 William Pitt Union, Pittsburgh, PA 15260. (See the International Student Admissions Section of this bulletin.)

Advanced Standing Policy

Applicants must submit official transcripts from each accredited college or university attended, whether or not it is intended that the courses be counted toward a degree. Grades for credits transferred are not used in computing a student's quality point average (QPA). All credits eligible for transfer are subject to the following regulations:

- All credits must have been earned at an accredited institution.
- Courses must correspond with those offered by the University in objectives and content.
- The number of credits granted for a given course cannot exceed the number on the transcript from the school where they were earned, nor can it exceed the number earned in the corresponding courses at the University of Pittsburgh.
- A maximum of 90 credits may be transferred from a four-year institution and 60 credits from a two-year institution.
- While the College of General Studies does not have a statute of limitations, it does reserve the right to invalidate some courses for transfer in which the content is outmoded.
- Students majoring in the liberal arts may transfer up to 18 credits of professional courses (e.g., business, engineering, nursing, etc.).
- All transfer credits are subject to re-evaluation if a student transfers from one school to another or from one major to another within the University of Pittsburgh or becomes inactive and is subsequently re-admitted.
- If a course for which advanced standing is given is repeated at the University of Pittsburgh, the advanced-standing credit is cancelled.

Advanced Placement and Credit by Examination

Students in CGS may also earn advanced standing credits through the following means:

College Level Examination Program (CLEP)

The CLEP program provides a way of earning college credits through testing. Specific regulations governing the awarding of CLEP general examination credits can be requested from student services on the fourth floor of the Cathedral of Learning, University of Pittsburgh, Pittsburgh, PA 15260, 412-624-6600, or from an academic consultant.

Credit by Examination

Students may earn credits toward graduation by successfully completing examinations in courses offered in the College of General Studies. Such examinations must be arranged through both the office of the CGS dean and the department teaching the course for which credit is desired. Many courses, except those with laboratories, special restrictions, or in the performing arts, may be challenged by examination. Course-specific credit by examination is open to all students enrolled in the College of General Studies who are in good academic standing. Cost for the exam is $10 per credit.

Once a student has enrolled in a course at any institution (including the University of Pittsburgh) and received a grade, including a grade for incomplete work, the student cannot be given credit toward graduation by taking a challenge examination for that course.

Students may not be given credit by challenge examination for credits appearing on the high school transcript except those advanced-standing courses for which the student has successfully completed the advanced-standing tests of the College Entrance Examination Board.

Students may request up to three credits by challenge examination for internships, providing the department and the CGS dean approve. Work performed as a requirement for such a challenge, whether paid or volunteer, must have been performed in the United States during the most recent three-year period. Students who are majoring in administration of justice and who have successfully completed Pennsylvania Act 120 or state police cadet training can receive up to 15 credits of advanced standing. The credits are awarded for specific courses.

Internships

An internship is a supervised, work-related experience, volunteer or paid, which is related to an academic discipline and is sponsored, evaluated, and graded by a University faculty member. The internship is a new experience and does not represent credit for past work or continuation of the current employment situation. A detailed outline of CGS internship requirements is available from CGS academic consultants.

Academic Standards

The College of General Studies' Guidelines on Academic Integrity outlines obligations of both students and instructors for maintaining academic integrity in CGS classes. Copies of this publication, which lists the obligations, procedures, penalties, and remedies for maintaining such integrity, are available by contacting the CGS judicial coordinator.

Graduation Requirements

The Bachelor of Arts or Bachelor of Science degree will be awarded upon the fulfillment of the following conditions:

- Completion of at least 120 credits of University work in one of the prescribed curricular courses, by advanced standing, or by examinations.
- Completion of at least one-half of the major or 15 credits, whichever is greater, at the University of Pittsburgh.
- Completion of the senior year (30 credits) in the College of General Studies.
- Attainment of at least a cumulative quality point average of 2.00 in courses taken at the University of Pittsburgh.
- Attainment of at least a cumulative quality point average of 2.00 in the major.
- Satisfactory completion of all required CGS and major courses.

Graduation with Honors

In order to qualify for honors, students must have earned at least 60 letter-graded credits. All of these credits must be taken at the University of Pittsburgh.

(For further information on honors criteria and QPA requirements, see the general section on Graduation in this bulletin.)

Grading Policy

There are two grading options available to students registering for courses offered by the College of General Studies: the letter grade option and the satisfactory/audit (S/N) option. (See the Grading and Records section of this bulletin for additional details on the two systems.)

Students must choose the grading option they desire by submitting a Grade Option/Audit Request form by the end of the third full week of classes during a term (second full week of classes during summer sessions 1 and 2). This decision may not be changed. Grade Option/Audit Request forms are available in the CGS registration center, 4th floor, Cathedral of Learning. If the student does not fill out a Grade Option/Audit Request form for a course in which more than one grade option is available, the default option (generally a letter grade) will automatically be selected.

Satisfactory/Audit (S/N) Grade Option

There are two limitations to the choice of the satisfactory/audit (S/N) grade option in the College of General Studies:

1. Departments may decide which courses are required for the major and if any may be taken as satisfactory/audit by majors. Departmental rules may cover not only courses within the department but those in other departments that are considered essential to the major. Students should be sure before selecting this grading option that their decision will not have an adverse effect on their plans for majoring in a particular field.
2. Under certain circumstances, departments may declare a course available only on a satisfactory/audit basis. In such courses students may not elect to receive a letter grade.

G Grade

The G grade signifies unfinished course work due to extenuating personal circumstances. Students assigned G grades are required to complete course requirements with the same instructor assigning the G grade. A course in which a student has received a G grade cannot be completed by sitting in the same course with the same or different instructor in a subsequent term. Exception to these conditions can be granted only by the CGS dean and must be approved before the G grade is issued.

At the time of requesting a G grade, the student should arrange with the instructor a plan and schedule for completing the course work. The instructor and student should sign the plan (a Course Completion Contract) and submit it to the CGS dean for approval. A G grade cannot be changed after three terms have elapsed from the term in which it was recorded. Course Completion Contracts are available in the CGS registration office, 4th floor, Cathedral of Learning.

Grade Reports

At the end of each term, a grade report is prepared by the Office of the University Registrar and mailed to the student, provided that all charges have been paid. This report shows the total credits carried, the grade received in each course, and total quality points earned. Shortly after the term ends, students can access their grades online via the secure server at student-info.pitt.edu.

Academic Probation

Students who have earned a minimum of 18 credits in the College of General Studies and whose cumulative quality point average falls below 2.00 at the end of any term will be placed on probation. Students placed on probation may be limited to 6–12 credits a term until they have regained good academic standing. Any students placed on probation who fail to regain good academic standing by the time they have completed an additional 18 credits of course work are subject to suspension.

Dean's List

The Dean's List, a recognition of high academic performance, is achieved by degree students each time they complete 12 credits in continuous active status in the College of General Studies with a quality point average of 3.25 or higher. A maximum of 3 credits of S (satisfactory) grades are acceptable for a person to qualify for the Dean's List.

Degrees Conferred

The College of General Studies awards Bachelor of Arts degrees in the following majors:

- Administration of justice
- Health services
- Humanities area
- Legal studies
- Liberal studies
- Media communications
- Public service
- Social sciences area

Bachelor of Science degrees are awarded in the following majors:

- Dental hygiene
- Liberal studies
- Natural sciences area

Degree Requirements

To earn a Bachelor of Arts or a Bachelor of Science degree in the College of General Studies, you must satisfactorily complete a minimum of 120 credits (approximately 40 courses), at least 30 credits of which must be in upper-division (1000-level) courses. These 1000-level courses may come from any of the requirements for the degree listed below. Requirements are subject to change; students should check with an academic consultant before registering.

Skills (15 credits minimum)

Certain tools of knowledge are required of all students in the baccalaureate degree program: ability to use the English language orally and in writing and ability to understand and use basic mathematical symbols. The courses required to satisfy each of the skills requirements are listed below:

- **Oral Communication—3 credits**
  COMMRC 0520 Public Speaking
- **Writing—9 credits minimum**
  English composition: Any general writing course and two other courses from English composition (ENGCMP), English writing (ENGWRT), or those designated W (writing). (At least 3 credits of composition/writing must be from the University of Pittsburgh.)
- **Mathematics—3 credits minimum**
  MATH 0010 College Algebra Part 1 and 0020 College Algebra Part 2 *or* MATH 0025 Applied College Algebra *or* MATH 0031 Algebra or equivalent

Quantitative and Formal Reasoning (3 credits minimum)

In addition to the acquisition of certain tools of knowledge through the skills requirements, students also need to acquire the ability to apply logic and formal reasoning to reading, writing, and thinking. Choose one course from the following list:

- Computer science (any course, 3 credits)
- Information science (one introductory course: 0010 or 0011, 3 credits)
- HPS 0611 Principles of Scientific Reasoning (3 credits)
- HPS 0621 Problem Solving: How Science Works (3 credits)
- PHIL 0500 Introduction to Logic (3 credits)
- MATH 0120 Business Calculus, or a more advanced course (4 credits)
- Statistics (any course, 3–4 credits)

Understandings (27 credits)

A liberal education provides broad exposure to the three major bodies of knowledge—humanities, social sciences, and natural sciences. Students are exposed to social, scientific, aesthetic, moral, and religious information, the purpose of which is to furnish insight into how the concerns

of people are interrelated, how knowledge has been accumulated, and how unsolved problems still challenge humanity. The courses needed to fulfill the understandings requirements are listed below. Note that a course can only be used to fulfill one of the following requirements for the degree: understandings, literature, history, or international perspectives.

- **Humanities (9 credits)**
  Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana studies	Music
Classics	Philosophy
Communication	Religious studies
English	Spanish, literature/culture
German, literature/culture	Studio arts
History of art and architecture	Theatre arts
Linguistics	

- **Social Sciences (9 credits)**

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana studies	Political science
Anthropology	Psychology
Economics	Religious studies
History	Sociology
Jewish studies	Urban studies
Legal studies	Women's studies

- **Natural Sciences (9 credits)**

Three courses distributed over two or three of the disciplines listed below:

Anthropology	History and philosophy of science
Astronomy	Neuroscience
Biological sciences	Physics
Chemistry	Psychology
Geology and planetary science	

Literature (3 credits)

This requirement introduces students to works of literature that have abiding value and, in the process, to the techniques of literary interpretation. This one-course requirement may also be fulfilled from disciplines other than English.

History (3 credits)

The study of history provides an understanding of contemporary society from the viewpoint of long-term change. This one-course requirement may also be fulfilled with courses other than those offered by the Department of History.

International Perspectives (6 credits minimum)

Today's world is economically, politically, and culturally interdependent, and knowledge of the world's countries is essential. This two-course requirement may be fulfilled from a variety of disciplines: Africana studies, anthropology, classics, economics, English literature, French, German, history, history of art & architecture, Italian, Japanese, Jewish studies, Latin, linguistics, music, philosophy, political science, Portuguese, religious studies, Russian, Serbo-Croatian, Slovak, sociology, and Spanish.

Specialized Study–The Major (24–36 credits)

The baccalaureate degree, in addition to providing certain skills and broad exposure to the major bodies of knowledge, also allows the opportunity to specialize in a particular field, providing depth of experience essential for vocational competence or further graduate study. An outline of each major may be obtained at the CGS information display on the 4th floor of the Cathedral of Learning or on the CGS Web site, www.pitt.edu/~cgs.

Students admitted to CGS can choose from the following 10 majors. Three of these majors (indicated by asterisks) are also available on Saturdays:

- Administration of justice*
- Dental hygiene (for licensed dental hygienists)
- Health services
- Humanities area*
- Legal studies
- Liberal studies
- Media communications
- Natural sciences area
- Public service
- Social sciences area*

Students who want a major in an arts and sciences field can begin in CGS and transfer to the College of Arts and Sciences after completing 24 credits. Admission is determined by the College of Arts and Sciences.

Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study.

Professional Electives

Students majoring in a liberal arts area may have no more than 18 credits in professional courses such as administration of justice, business, education, engineering, information science, public administration, and social work. Students majoring in administration of justice or public service may not have more than 42 professional credits within their degree program.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS: business, education, engineering, health and rehabilitation sciences, information sciences, nursing, pharmacy, and social work. Upon successful completion of the courses, students may apply to the school offering the program. See an academic consultant for further information about requirements and acceptance.

Program Descriptions

A detailed description of each major offered by CGS is given below. All CGS students must fulfill the general degree requirements listed above as well as the specific requirements for fulfilling each major listed below.

Administration of Justice

In American society, the justice system is a central, social institution. Its effects on individuals and social groups give it a pivotal role in a changing society. The administration of justice program, offering courses taught by faculty from the Graduate School of Public and International Affairs, is an upper-division undergraduate course of interdisciplinary study in the liberal arts and sciences that leads to a Bachelor of Arts degree. The major goal of this baccalaureate program is to develop students' understanding of the evolution, theory, structure, functioning, and processes of change in the total system of criminal justice in our society. It is designed so that administration of justice majors may develop competence in one of three specialized areas:

- Adult and juvenile corrections
- Law enforcement
- Forensics

Of the minimum total of 120 credits required for the Bachelor of Arts degree with a major in administration of justice, 30 credits (10 courses) must come in courses that satisfy the major requirements. An outline of these major requirements follows:

Core Requirements: 12 credits (four courses)

ADMJ	0100	Society and the Law
ADMJ	0500	Introduction to Administration of Justice
ADMJ	1450	Critical Issues in Criminal Justice
ADMJ	1900	Preservice Internship

Area of Specialization: 9 credits (three courses)

Choose one of the three areas of specialization. All courses listed under a given area are required.

Adult and Juvenile Corrections

ADMJ	1220	Deviance and the Law
ADMJ	1300	Introduction to Corrections
PSY	1205	Abnormal Psychology (prerequisite: PSY 0160 Psychology of Personality)

Law Enforcement Practice

ADMJ	1200	Introduction to Law Enforcement
ADMJ	1265	Advanced Topics in Criminology
ADMJ	1410	Introduction to Criminal Procedure

Forensics

ADMJ	1100	Crime Scene Investigation
ADMJ	1115	Criminalistics
LEGLST	1230	Psychology and the Law

Major Electives: 9 credits (three courses)

ADMJ	0600	Introduction to Criminology
ADMJ	1130	Minority Issues in Criminal Justice
ADMJ	1200	Introduction to Law Enforcement
ADMJ	1205	Introduction to Police Management
ADMJ	1210	Juvenile Delinquency
ADMJ	1220	Deviance and the Law
ADMJ	1225	The Juvenile Justice Process
ADMJ	1230	White Collar Crime
ADMJ	1235	Organized Crime
ADMJ	1236	International Organized Crime
ADMJ	1242	Gender, Race, Class, and Crime
ADMJ	1245	Terrorism
ADMJ	1265	Advanced Topics in Criminology
ADMJ	1300	Introduction to Corrections
ADMJ	1350	Probation and Parole
ADMJ	1400	Introduction to Criminal Law (also offered as LEGLST 1140)
ADMJ	1410	Introduction to Criminal Procedure (also offered as LEGLST 1141)
ADMJ	1425	Principles of Homeland Security
ADMJ	1900	Preservice Internship
ADMJ	1901	Independent Study

Other related courses are offered by the disciplines of anthropology, legal studies, political science, psychology, public service, and sociology. Check with a CGS academic consultant for approved courses from these disciplines to satisfy the major's elective requirements.

Dental Hygiene

Opportunities for healthcare professionals are becoming available as a result of the changes in healthcare delivery formats. To prepare dental hygiene graduates for employment opportunities created by these changes, the University of Pittsburgh's College of General Studies and the School of Dental Medicine have developed a course of study that leads to a Bachelor of Science in dental hygiene. This degree is intended for those students who have graduated from accredited dental hygiene programs with a certificate or associate's degree. (See School of Dental Medicine listings in this bulletin for information on the dental hygiene certificate program.) The Bachelor of Science degree enhances the already completed professional training and provides important exposure to the liberal arts. The combination of basic sciences, clinical experiences, and liberal arts strengthens the career opportunities for dental hygienists in business, sales, dental hygiene education, and research.

A distinct advantage of the Bachelor of Science degree is that hygienists can practice their profession following receipt of their certificate in dental hygiene and be employed while completing the requirements for the bachelor's degree. Class schedules can be tailored to work schedules. Classes are available in the evening, during the day, on Saturday, and through external studies, which require only three Saturday workshops while using specially developed course materials. Attendance can be on a full-time or part-time basis.

The following requirements must be met by students seeking admission to the Bachelor of Science program:

- Successful completion of a program in dental hygiene accredited by the American Dental Association (ADA) Commission on Dental Accreditation (such as the certificate program detailed above),
- Submission of an official copy of a dental hygiene program transcript as well as transcripts from all other colleges attended,
- Licensure to practice dental hygiene in at least one state or eligibility for licensure in Pennsylvania, and
- A minimum grade point average of 2.25 on a 4.00 scale.

The following program requirements must be met to receive the Bachelor of Science degree:

- Completion of a minimum of 120 credits; of this total, a minimum of 30 credits must be at the junior/senior (1000) level. The courses must be completed within five years of enrolling in the program.
- Individuals who graduated from the University of Pittsburgh School of Dental Medicine in 1996 or later can apply 82 credits from their Dental Hygiene Program toward the 120 credits required for the bachelor of science degree. The following areas make up the remaining 38 credits:
  - English composition or writing—6 credits
  - Mathematics—2 credits
  - Humanities—6 credits
  - Social sciences—3 credits
  - Literature—3 credits
  - History—3 credits
  - International perspective—6 credits
  - Electives—9 credits

Three credits of electives must be taken in CGS courses, and 6 credits must be taken from among the following Dental Hygiene Program core courses:

Education Area Courses

DENHYG	1901	Allied Health Education
DENHYG	1902	Allied Health Education Practicum

Research Area Courses

DENHYG	1942	Scientific Literature Evaluation
DENHYG	1944	Introduction to Research Analysis

Health Management Area Courses

DENHYG	1921	Health Management Seminar
DENHYG	1922	Health Management Practicum

- Individuals who graduated from the University of Pittsburgh Dental Hygiene Program in 1995 or earlier or from any other college or university can transfer many of their professional and liberal arts credits toward the bachelor's degree. The number of credits transferred is determined by an individual review of each applicant's academic credentials. Interested individuals should contact the College of General Studies dental hygiene academic consultant at 412-624-6600.

Refer to the College of General Studies' *Requirements for the Bachelor's Degree* sheet for specific information about applicable courses. Check with an advisor before registering. Requirements are subject to change.

Health Services

The health services major is an interdisciplinary course of study designed to prepare students to work in the healthcare field. Courses focus on the structure of the healthcare industry, including its institutions, personnel, financing, and regulatory controls, and provide students with communication and management skills.

Students may pursue one of two tracks:

- **Managing Health Services Programs and Projects** gives students key administrative and business skills, with an emphasis on grant and research project management.
- **Community Health Assessment** provides an understanding of the physical, social, and behavioral factors influencing health.

A minimum total of 120 credits is required for the Bachelor of Arts degree with a major in health services. Of this total, the major consists of 3 credits of prerequisite courses and 33 credits of core and specialization courses. The remaining credits for the degree are outlined on the *Requirements for the Bachelor's Degree* sheet which may be obtained at the CGS information display on the fourth floor of the Cathedral of Learning, or at www.pitt.edu/~cgs.

This major has a computer competency requirement: Students may take one of the following courses or pass a competency examination:

COURSE			CREDITS
PUBSRV	0040	Public Service Technologies	3
CS	0110	Computers and Networks	3
CS	0131	Software for Personal Computing	3

Health Field Core: 18 credits

COURSE			CREDITS
NUR	0155	Issues in Cross-Cultural Health Care	3
HRS	1017	Introduction to Epidemiology	3
COMMRC	1730	Special Topics: Health Communication	3
SOC	0477	Medical Sociology	3
PUBSRV	1305	Health, Law, and Ethics	3
HIST	1090	History of Medicine and Health Care	3

Specialization Tracks: 15 credits

Students take a total of five courses from one of the two tracks.

TRACK 1: MANAGING HEALTH SERVICES PROGRAMS AND PROJECTS

Required, choose two:

COURSE			CREDITS
BUSERV	1915	Introduction to Management	3
HRS	1009	Organizational Theory and Concepts	3
PUBSRV	1315	Managing Projects and Contracts	3

Electives, choose three:

COURSE			CREDITS
COMMRC	1102	Organizational Communication	3
COMMRC	1106	Small Group Communication	3
DENHYG	1942	Science Literature Evaluation	3
HIM	1455	Quality Care Assessment *and*	2
HIM	1465	Quality Care Assessment Lab	1
HPS	0612	Mind and Medicine	3

PUBSRV	1110	Financial Management in the Public Sector	3
PUBSRV	1120	Human Resources Management in the Public Sector	3
PUBSRV	1335	Administrative Behavior	3
PHIL	1360	Biomedical Ethics	3
PSY	1635	Organizational Psychology	3

TRACK 2: COMMUNITY HEALTH ASSESSMENT

Required, choose two:

COURSE			CREDITS
NUR*		Risk Factors and Health	3
ANTH	1761	Patients and Healers	3
SOC	1450	Health and Illness	3

Electives, choose three:

ANTH	1794	Gender and Health	3
COMMRC	0530	Interpersonal Communication	3
DENHYG	1921	Health Management Seminar	3
DENHYG	1414	Gerontology	3
DENHYG	1922	Health Management Practicum	3
HRS	1006	Introduction to Nutrition	3
NUR	1070	Introduction to Nursing Science	3
PUBSRV	1100	Practices in Public Administration	3
PUBSRV	1200	Practices of Non-Profit Organizations	3
PSY	1215	Health Psychology	3
PSY	1230	Psychology of Death and Dying	3
PSY	1255	Principles of Behavior Modification	3
PSY	1235	Alcohol Use and Abuse	3

*Course number to be announced.

Health Information Management

Students who wish to pursue the Bachelor of Science degree in health information management may complete the 60-credit prerequisite program in CGS and then apply for transfer to the School of Health and Rehabilitation Sciences (SHRS). For more information concerning this program and admission criteria, see the SHRS information sheet in the CGS lobby, or view the SHRS Web site: www.shrs.pitt.edu.

Certificate Programs in Health Services

- Managing health services programs and projects
- Community health assessment

Two health services certificates are available to students wishing to learn more about the health field or to gain employment in a healthcare profession. Please refer to the certificate program sheets for managing health services programs and projects and community health assessment available in the CGS lobby, 4th floor, Cathedral of Learning, or visit the CGS Web site: www.pitt.edu/~cgs.

Humanities Area

Humanities area is a liberal arts major that students customize to meet their interests and career goals with a focus on the humanities. Of the minimum total of 120 credits required for the Bachelor of Arts degree with a major in humanities, 36 credits (approximately 12 courses) must come from courses that satisfy the major requirements. To satisfy those requirements, students choose from a variety of courses that must be humanities-related and concentrated in three areas from the following list of disciplines:

- Africana studies (courses must be humanities-related)
- Classics
- Communication
- English literature
- English writing
- Foreign language (literature courses)
- History of art and architecture
- Music
- Philosophy
- Religious studies (courses must be humanities-related)
- Studio arts
- Theatre arts

Students must adhere to the following requirements as they take courses for the humanities area major:

- At least five courses must be taken from one discipline of concentration listed above and at least three courses from the other two disciplines of concentration.
- At least one half of the major courses must be at the 1000 level.
- All courses selected for the humanities area major must be approved by an academic consultant.

School of Education Certification Programs: The College of General Studies and the School of Education have collaborated on a curriculum under the humanities area program that incorporates all of the prerequisite course work needed for admission into the teacher certification program in comprehensive English education. This option may be used by students interested in the professional year or the Master of Arts in teaching programs offered in the School of Education. Completion of the prerequisites for the School of Education does not guarantee acceptance to their programs. See an academic consultant for specific requirements.

Legal Studies

The legal studies major is an interdisciplinary course of study that combines the theories and methods of several social science disciplines and law. While not designed as a prelaw program, the major seeks to develop an understanding of the nature, content, and operation of American law and legal institutions.

Of the minimum total of 120 credits required for the Bachelor of Arts degree with a major in legal studies, 30 credits (10 courses) are in courses that satisfy the major requirements. An outline of these major requirements follows. ***Note:*** *Some legal studies courses fulfill CGS social science curriculum requirements. See the current* Schedule of Classes *for specific information.*

Core Requirements: 9 credits (three courses)

ADMJ	0100	Society and the Law
LEGLST	0080	Introduction to Legal Studies
LEGLST	1210	Law and Politics *or*
PS	1213	Law and Politics (Political Science)

Legal Studies Electives: 15 credits (choose five courses)

LEGLST	0020	Public Law and Moral Reasoning
LEGLST	1140	Introduction to Criminal Law
LEGLST	1141	Introduction to Criminal Procedure
LEGLST	1150	Lawyers and the Legal Profession
LEGLST	1152	Law for Public Administrators
LEGLST	1155	Law and Social Change
LEGLST	1160	Comparative Judicial Processes
LEGLST	1230	Psychology and Law
LEGLST	1260	Law, Literature, and Cinema
LEGLST	1261	Language and the Law
LEGLST	1310	Constitutional Choices
LEGLST	1315	Sex, Law, and Marriage
LEGLST	1318	Separation, Divorce, and Custody

Note: *Students may not receive credit for both LEGLST 1318 and SOC 1456 Separation, Divorce, and Custody.*

LEGLST	1320	Law and Environment
LEGLST	1325	Consumer Law
LEGLST	1327	International Law
LEGLST	1330	Law and Business Corporations
LEGLST	1340	Introduction to Civil Rights
LEGLST	1355	Emerging Issues in Legal and Social Policy
LEGLST	1410	Introduction to Legal Research
LEGLST	1900	Preservice Internship
LEGLST	1901	Independent Study

Outside Electives: 6 credits (choose two courses)

The final degree requirement is completion of 6 credits (two courses) from a list of approved electives outside legal studies. The following represents approved elective courses from various disciplines:

ADMJ	0500	Introduction to Administration of Justice
ADMJ	1130	Minority Issues in Criminal Justice
ADMJ	1220	Deviance and the Law
ADMJ	1450	Critical Issues in Criminal Justice
ANTH	1760	Anthropology of Law
COMMRC	1114	Freedom of Speech and the Press
ECON	0810	Consumer Economics
HIST	1163	Women and the Law
HIST	1190	Medieval Government and Society
HIST	1191	English Origins of American Law
HIST	1690	American Legal History
PHIL	1390	Philosophy of Law
PS	1211	Legislative Process
PS	1614	Theory of Justice (honors)
PSY	0182	Law and Social Psychology
PUBSRV	1300	Legal Issues in Public Service
SOC	0471	Deviance and Social Control
SOC	1472	Conflict Resolution

Liberal Studies

The liberal studies major allows students the flexibility to explore a wide range of subjects while tailoring their studies to career or educational goals. This makes the baccalaureate study more meaningful and practical to the individual with specific professional or intellectual interests. Students who wish to pursue this major must choose their courses around a central theme. A theme could involve courses from a single discipline or related courses from several disciplines.

Students must adhere to the following requirements as they take courses for the liberal studies major:

- Students should declare their intention to pursue the liberal studies major before they earn 60 credits.
- Students must submit a rationale for the theme selected and the courses that will constitute it to the liberal studies committee for approval.
- Students must take a minimum of 36 credits (12 courses) in the central theme that they choose.
- Eighteen of the 36 approved credits that constitute the central theme must be at the 1000 level.
- No more than 6 professional credits can be used in the major.

School of Education Certification Programs: The College of General Studies and the School of Education have collaborated on a curriculum under the liberal studies program that incorporates all of the prerequisite course work needed for admission into the teacher certification programs in early childhood and elementary education. These options may be used by students interested in the professional year or the Master of Arts in teaching programs offered in the School of Education. Completion of the prerequisites for the School of Education does not guarantee acceptance to their programs. See an academic consultant for specific requirements.

Media Communications

The media communications major is designed to meet the needs and interests of persons engaged in or aspiring to careers that employ competency in communicating in business, in government, or through print or other media, such as newspapers and magazines, television, and radio. While journalism is included, this major is more broadly conceived than many programs elsewhere bearing that designation, addressing not only a medium, but also the social context and value system of communications. Heavy emphasis is given to writing capabilities. The major consists of courses taken primarily from the communication and English departments.

A minimum total of 120 credits is required for the Bachelor of Arts degree with a major in media communications. Of this total, students must take 30 credits (approximately 10 courses) to satisfy the major requirements and 21 related credits (seven courses) as listed below. ***Note:*** *A grade of C or higher is required in English composition and writing courses.*

Prerequisite Courses: 9 credits (three courses)

COMMRC	0320	Mass Communication Process
ENGCMP	0400	Written Professional Communication
ENGWRT	0550	Introduction to Journalism

Core Courses: 18 credits (six courses)

Choose two courses from communication, two from English writing, and the remaining two from either area.

COMMRC	1103	Rhetoric and Culture
COMMRC	1104	Political Communication
COMMRC	1105	Television and Society
COMMRC	1111	Theories of Persuasion
COMMRC	1114	Freedom of Speech and Press
COMMRC	1115	African American Rhetoric
COMMRC	1117	20th Century Public Argument
COMMRC	1118	Presidential Rhetoric 1
COMMRC	1119	Presidential Rhetoric 2
COMMRC	1121	History of Mass Media
COMMRC	1122	Media Criticism
COMMRC	1125	Media Theory
COMMRC	1126	Media and Consumer Culture
COMMRC	1732	Special Topics in Mass Communication
ENGWRT	1310	Newspaper 1
ENGWRT	1320	Newspaper 2
ENGWRT	1330	Nonfiction 1
ENGWRT	1340	Nonfiction 2

Specialization Courses: 12 credits (four courses)

Choose one from this list of English writing courses:

ENGWRT	1390	Readings in Contemporary Nonfiction
ENGWRT	1391	Writing the Review
ENGWRT	1393	Sports Writing
ENGWRT	1394	Science Writing
ENGWRT	1395	Public Relations Writing
ENGWRT	1397	Creative Corporate Writing
ENGWRT	1398	Corporate Speech Writing
ENGWRT	1399	Topics in Nonfiction: Newspaper
ENGWRT	1401	Topics in Nonfiction: Magazine
ENGWRT	1403	Topics in Nonfiction: Electronic Media
ENGWRT	1405	Broadcast Writing

And choose one from this list of English writing courses:

ENGWRT	1750	Senior Seminar in Nonfiction
ENGWRT	1900	Internship: News*

(*Because internship experiences vary, students may register for an internship course more than once. Read the description for the course before registering.)

And choose two from:

Any English writing courses listed in the core or specialization not used to meet those requirements.

ENGWRT	1901	Independent Study

Related Field: 12 credits (four courses)

Students pursuing this major are required to have an approved focus of 12 credits in a related field such as history, history of art and architecture, political science, studio arts, literature, theater, psychology, etc.

Natural Sciences Area

Natural sciences area is a liberal arts major students customize to meet their interests and career goals with a focus on the sciences. Of the minimum total of 120 credits required for the Bachelor of Science degree with a major in the natural sciences area, 36 credits (approximately 12 courses) must come in courses that satisfy the major requirements. To satisfy those requirements, students choose from a variety of courses that must be natural sciences related and concentrated in three areas from the following list of disciplines:

- Anthropology (natural sciences-related course)
- Astronomy
- Biological sciences
- Chemistry
- Computer science (only courses numbered 0401 and above)
- Geology and planetary science
- History and philosophy of science
- Mathematics (only courses numbered 0220 and above)
- Neuroscience
- Physics
- Psychology (natural sciences-related course)
- Statistics

Students must adhere to the following requirements as they take courses for the natural sciences area major:

- At least five courses must be taken from one discipline of concentration listed above and at least three courses from the other two disciplines of concentration.
- All courses selected for the natural sciences major must be approved by an academic consultant.

School of Education Certification Programs: The College of General Studies and the School of Education have collaborated on a curriculum under the natural sciences program that incorporates all of the prerequisite course work needed for admission into the teacher certification programs in earth and space science and general science education. These options may be used by students interested in the professional year or the Master of Arts in teaching programs offered in the School of Education. Completion of the prerequisites for the School of Education does not guarantee acceptance to their programs. See an academic consultant for specific requirements.

Public Service

The undergraduate major in public service is offered by the Graduate School of Public and International Affairs (GSPIA) through CGS. It is designed to prepare students for a broad range of careers that are focused on the resolution of public problems or the delivery of public services. These careers range from those in the local government and community arena to the metropolitan region and state arena to national and international settings. Potential employers include state, local, and federal governments; nonprofit and nongovernmental organizations at the local, regional, national, or international level; private firms engaged in working with government; and private corporations with an active public service culture. The major serves students who are interested in public issues as concerned and interested citizens and prepares students for a wide range of graduate programs related to public policy and management.

The public service major adds professional dimension to various arts and science majors including political science, anthropology, economics, urban studies, and sociology.

Note: *A minimum total of 120 credits is required for the Bachelor of Arts degree with a major in public service.*

Of this total, students must take 33 credits (11 courses) in public service, one course in statistics, and 6 credits (two courses) from a related field: political science, economics, psychology, sociology, or another department approved by an academic consultant. The remaining credits required for the degree are outlined on the *Requirements for the Bachelor's Degree* sheet available at the CGS information display on the fourth floor of the Cathedral of Learning.

Core Courses: 15 credits (five courses)

NOTE: *Numbers in parentheses indicate equivalent public administration courses.*

COURSE			CREDITS
PUBSRV	0020 (1116)	Introduction to Public Service	3
PUBSRV	0030 (0030)	Public Policy Process	3
PUBSRV	0040 (1430)	Public Service Technologies	3
PUBSRV	0050 (1125)	Ethics and Accountability	3
PUBSRV	1900	Internship Seminar	3

Concentration Areas: 18 credits (six course)

Choose one of the three concentration areas below.

Public Administration Concentration

COURSE			CREDITS
PUBSRV	1100 (0070)	Practices in Public Administration	3
PUBSRV	1110 (1160)	Financial Management in the Public Sector	3
PUBSRV	1120 (1140)	Human Resources Management in the Public Sector	3
PUBSRV	1130 (1210)	Planning in the Public Sector	3
PUBSRV		Electives (choose two additional public service courses)	6

Nonprofit Management Concentration

COURSE			CREDITS
PUBSRV	1200 (1165)	Practices of Nonprofit Management	3
PUBSRV	1210	Financial Management in Nonprofit Organizations	3
PUBSRV	1220	Human Resources Management in Nonprofit Organizations	3
PUBSRV	1230 (1440)	Fundraising for Nonprofit Organizations	3
PUBSRV		Electives (choose two additional public service courses)	6

Self-Designed Concentration

COURSE			CREDITS
PUBSERV	1000	Democratic Citizenship	3
Five electives			15

Courses that meet the special program needs of the student may be selected from any course offered in public service or any other department. The self-designed concentration must be approved by the departmental advisor.

Public Service Electives

COURSE			CREDITS
PUBSRV	0150	Introduction to Global Studies	3
PUBSRV	1000	Democratic Citizenship	3
PUBSRV	1300 (1135)	Legal Issues in Public Service	3
PUBSRV	1305	Health, Law, and Ethics	3
PUBSRV	1310 (1155)	Diversity Issues in Public Service	3
PUBSRV	1315 (0050)	Managing Projects and Contracts	3
PUBSRV	1320	Geographic Information Systems (GIS) in the Public Service	3
PUBSRV	1325 (1120)	Federalism and Intergovernmental Relations	3
PUBSRV	1335 (1145)	Administrative Behavior	3
PUBSRV	1350 (1170)	Public and Nonprofit Performance Accounting	3
PUBSRV	1360 (1445)	Administration of International Organizations	3
PUBSRV	1380	Global Citizenship	
PUBSRV	1365 (1150)	Comparative and Development Administration	3
PUBSRV	1370	Comparative Foreign Policy Making	3
PUBSRV	1410 (1452)	Housing and Community Development	3
PUBSRV	1415 (1455)	Environmental Policy and Management	3
PUBSRV	1420 (1146)	Urban and Regional Governance	3
PUBSRV	1425	Principles of Homeland Security	3
PUBSRV	1450	Program Evaluation	3
PUBSRV	1901	Independent Study	1–6

Required Supporting Course Work

Students are required to take a course in statistics (STAT 0200 Basic Applied Statistics or an equivalent course) and two courses from a related department such as economics, political science, psychology, sociology, or another department approved by an academic consultant.

Transfer Credit Agreement

A transfer credit agreement has been established between the Community College of Allegheny County (CCAC) and the public service program at the University of Pittsburgh. The agreement gives a course-by-course outline of the associate's degree program and the equivalent course or requirement fulfilled for CGS. Courses transfer if graded C or better. For a copy of the transfer agreement, contact CGS.

Graduate School Option

Students with a QPA of 3.50 or better planning to pursue graduate work may want to consider the graduate school

option for early admission to their graduate program. GSPIA offers an early admission option for public service majors in CGS. Contact CGS for details.

Minor Requirements

Students interested in a minor, rather than a major, in public service should check with their academic consultant. For CGS students, the minor would be professional elective course work. For College of Arts and Sciences students, the minor would be non-CAS elective course work. For the minor, students must complete five courses (15 credits) with at least three courses from the University of Pittsburgh. A 2.0 average is required in the minor.

Minor courses:

			CREDITS
PUBSRV	0020 (1116)	Introduction to Public Service	3
PUBSRV	0030 (0030)	Public Policy Process	3
PUBSRV	0050 (1125)	Ethics and Accountability	3
PUBSRV		Electives	6

Requirements are subject to change. Check with an academic consultant before registering.

Social Sciences Area

Social sciences area is a liberal arts major students can customize to meet their interests and career goals with a focus on the social sciences. Of the minimum total of 120 credits required for the Bachelor of Arts degree with a major in social sciences area, 36 credits (approximately 12 courses) must come in courses that satisfy the major requirements. To satisfy those requirements, students choose from a variety of courses that must be social sciences related and concentrated in three areas from the following list of disciplines:

- Africana studies (social sciences-related courses)
- Anthropology (social sciences-related courses)
- Economics
- History
- Jewish studies
- Legal studies
- Political science
- Psychology (social sciences-related courses)
- Religious studies (social sciences-related courses)
- Sociology

Students must adhere to the following requirements as they take courses for the social sciences area major:

- At least five courses must be taken from one discipline of concentration listed above and at least three courses from the other two disciplines of concentration.
- At least one half of the major courses must be at the 1000-level.
- All courses selected for the social sciences area major must be approved by an academic consultant.

■ SCHOOL OF HEALTH AND REHABILITATION SCIENCES

The School of Health and Rehabilitation Sciences (SHRS) offers educational programs leading to a baccalaureate degree in the following areas:

- Clinical dietetics and nutrition
- Communication science
- Emergency medicine
- Health information management
- Rehabilitation science*

*SHRS offers a concentration in athletic training in the rehabilitation science major.

(SHRS previously offered a baccalaureate degree in occupational therapy. This program has transitioned to the Master of Occupational Therapy degree program. Refer to the Graduate Bulletin for program prerequisites and curriculum.)

The School of Health and Rehabilitation Sciences is an integral part of the world-class University of Pittsburgh Medical Center (UPMC). The medical center comprises a variety of hospitals and clinical facilities that afford students a wealth of opportunities for professional experience.

The mission of the school is to advance the theoretical base of knowledge underlying the practice of health and rehabilitation disciplines and professions through research, teaching, and professional service.

Contact Information

University of Pittsburgh
School of Health and Rehabilitation Sciences
Office of Admissions
4019 Forbes Tower
Pittsburgh, PA 15260
412-383-6558
shrsadmi@pitt.edu
www.shrs.pitt.edu

Admission Requirements

Freshman application is made through the Office of Admissions and Financial Aid. Students typically apply to SHRS in the spring semester of their sophomore year of college. (See Admission Deadlines under Transfer Student Admissions for specifics.) Students applying for transfer from other institutions may apply directly to SHRS. Second-career students or students who possess a bachelor's degree may apply directly to SHRS providing prerequisite courses are successfully completed.

General requirements for admission to SHRS's baccalaureate degree programs include the successful completion of a minimum of 60 college-level credits with a cumulative quality point average (QPA) of at least 2.50 (based on 4.00). Included in the 60 credits must be the required prerequisites for the SHRS program to be entered (see specific prerequisites listed under Program Descriptions). Students applying for transfer from other institutions and international students must have taken comparable prerequisite courses. In order to assist the Committee on Admissions in making

a more accurate evaluation of academic suitability for the program, applicants should complete as many of the prerequisite courses as possible before applying to SHRS. A minimum grade of C- is required for courses designated as prerequisites.

SHRS does not evaluate College Level Examination Program (CLEP) scores for credit but will accept CLEP credits that have been evaluated and posted on an official transcript from an accredited college or university. CLEP credits are not applied toward courses that are listed as prerequisites.

Since many health professionals find a second (foreign) language valuable, SHRS recommends such study either during high school or the first two years of college. In addition, some computer background (a college-level computer science course) is recommended.

See SHRS Program Descriptions for additional admissions requirements.

Application Procedures

A completed application to SHRS should be sent directly to SHRS (see Admission Deadlines under the Transfer Student Admissions section of this bulletin for specifics) and should include the following:

1. All relevant application forms:
   - University of Pittsburgh students must complete the SHRS application for undergraduate programs.
   - Transfer students and students possessing a bachelor's degree must complete the SHRS undergraduate application as well as a transfer application from the Office of Admissions and Financial Aid.
   - International applicants must complete both an SHRS and a transfer application as well as an application from the Office of International Student Services. (See International Student Admissions.)
2. Self-evaluation—Applicants must submit a brief typed statement discussing when and how they became interested in the field and program to which they are applying and outlining their long-term professional goals.
3. Transcripts—Official transcripts from high schools and colleges attended. Students currently enrolled in the University of Pittsburgh are not required to submit high school transcripts. Credits shown on a transcript as transfer credits from another institution cannot substitute for the official transcript of the college or university at which the credits were earned.
4. Evaluation form—One form of evaluation is required from a faculty member, academic advisor, or work supervisor. Evaluations must be enclosed in a sealed envelope signed by the evaluator.
5. The application fee of $35 (only if transferring from another institution; University of Pittsburgh students do not have to pay this fee).

Admission Status

Students admitted to SHRS are admitted to one of three statuses: full, provisional, or special.

- Students admitted to full status have met all admission criteria and have been admitted either as full-time or part-time students for study toward the baccalaureate degree.
- In certain circumstances, when an applicant is admitted with a QPA of less than 2.50, he/she is admitted on a provisional basis and must earn 2.00 in the first term (or first 12 credits for part-time students) in order to be granted full admission. Students who are admitted provisionally who then do not earn a 2.00 in the first term (or first 12 credits for part-time students) may not continue in SHRS.
- Applicants not matriculated in any school in the University who wish to take courses for credit without reference to a degree may be admitted as special students if they present evidence of ability to follow successfully the courses for which they apply. Students admitted to SHRS as special students may take a maximum of 6 credits toward a degree without submitting an application. A student wishing to register for more than 6 credits as a special student has the right to appeal in written form to the dean. Information concerning such requests should be directed first to the University of Pittsburgh, SHRS Registrar, 4024 Forbes Tower, Pittsburgh, PA 15260.

Acceptable Academic Status

All students must receive a C- or better in all required courses in the professional curriculum. Students who receive a grade below a C- must repeat that course and attain a grade of C- or better. Students will not be permitted to register for a course if they receive a grade below C- in a prerequisite for that course.

Repeating Courses

Students must repeat required courses in the professional curriculum in which they receive a grade below C-. Students are permitted to repeat a course one time only. When a student successfully repeats a course at the University of Pittsburgh, the repeated course grade and not the original grade is computed in the QPA.

A course in which a passing grade has been achieved may not be repeated to improve the grade. Because major portions of the various curricula are sequential in nature and courses are offered only once a year, courses cannot be repeated until the following academic year. (See Repeating Courses in the Grading and Records section of this bulletin for more information.)

Class Designation

Class designation of undergraduate students is based on successful completion of course requirements for each curricular year in the school. Therefore, all requirements in the junior year must be met before promotion to the senior year.

Statute of Limitations

Part-time students must complete bachelor's degree requirements within a reasonable period of time. A plan of study will be worked out with the student's advisor detailing the length of time needed to complete the program.

Advanced Standing

A maximum of 60 credits will be posted on the SHRS transcript unless indicated to the Office of Student Services via the plan of study that the student qualifies for more than 60 credits. Grades of D will be accepted for advanced standing from all universities and colleges provided the D indicates passing. However, a D grade will not be accepted for advanced standing if it occurs in a prerequisite course.

Advanced standing for courses in the professional curriculum is a departmental decision. If advanced standing is not granted, credit by examination for specified courses may be taken to demonstrate mastery of the course content. Advanced standing is reflected on the plan of study, which the student completes with his/her academic advisor. The Office of Student Services will post advanced standing only as indicated by the plan of study.

Clinical Education—Directed Practice

Clinical or field learning experience is an integral and essential part of SHRS undergraduate professional programs. All students preparing to be athletic trainers, clinical dietitians, emergency medicine technicians (paramedics), or health information managers will spend a specific amount of time in a variety of clinical education experiences. These experiences are planned sequentially and in coordination with classroom or laboratory courses taken on campus.

All clinical education experiences take place at sites that have signed contracts with the University of Pittsburgh. An SHRS faculty member, usually called a coordinator of clinical education, assigns students to these sites. Supervision or instruction during clinical education is provided by health professionals qualified appropriately for the type or level of content studied by the student. Students are required to carry professional liability insurance and personal health insurance during all phases of clinical education.

Students may be required to travel a distance or to relocate outside the city for their clinical education assignments. All expenses for transportation, housing, food, etc., are the student's responsibility.

Students must wear proper attire, which may vary with the clinical education. Students studying to be health information managers, for example, will dress in street clothes, while students studying to be clinical dietitians may wear white lab coats. Safety may be a consideration. The coordinator of clinical education will provide specific information about clothing or uniforms for each program.

Because of clinical education time requirements for accreditation purposes, any student who misses clinical time for any reason must see the appropriate practicum instructor or coordinator of clinical education to arrange for any needed make-up time.

Graduation

Candidates for a bachelor's degree from the School of Health and Rehabilitation Sciences must have satisfactorily completed a minimum of 120 credits, 30 (at minimum) of which must have been taken while registered in the school, and candidates must have completed the requirements for the program in which they have enrolled. The student's advisor must approve these credits. To qualify for graduation, students must have completed all courses and other degree requirements and must have a plan of study on file in the Office of Student Services, 4024 Forbes Tower.

The QPA used for graduation and for the awarding of honors will be calculated as a composite of all courses taken at the University of Pittsburgh counting toward completion of the degree. The baccalaureate degree student attaining an outstanding scholastic record may, upon vote of the faculty, be graduated with program honors if a minimum of 60 letter-graded credits have been earned at the University of Pittsburgh. A minimum QPA of 2.00 is required to graduate. A student failing to remove a D, F, G, or I grade in a required course will not graduate.

An application for graduation must be filed in the SHRS Office of Student Services at the time of registration for the term in which the student expects to complete all requirements for graduation. Students must be registered for a minimum of 1 credit in the term/session in which they plan to graduate. Students who have maintained an excellent academic record may also graduate with University honors. (See the Graduation section of this bulletin for further details.)

■ PROGRAM DESCRIPTIONS

Clinical Dietetics And Nutrition (CDN)

It is widely accepted that good nutrition plays a major role in the maintenance of health and the quality of life, the prevention and treatment of certain diseases, as well as recovery and rehabilitation following physiological trauma. Although a number of professions include nutrition as one area of research and/or practice interests, it is the profession of dietetics that dedicates its efforts entirely to the improvement of the nutritional status of people and the advancement of the science of nutrition. Registered dietitians whose specialized education is based in the biological, sociological, nutritional, and food sciences provide nutritional care to people, both well and ill, by using their expertise in nutrition science, food science, psychological and social significance of eating behavior management, food economics, budgeting, counseling, and educational methodology. Registered dietitians practice in a variety of settings. These include hospitals and other healthcare institutions (as either clinicians or food administrators), industry, government, and private practice.

Preparation for a career as a registered dietitian requires the completion of a bachelor's degree in an approved program and an accredited supervised clinical education experience program (didactic internship), followed by the passing of a national registration examination. The clinical dietetics and nutrition program offers several options for meeting the eligibility requirements to take the registration examination:

- Completion of a Bachelor of Science degree in an accredited undergraduate Coordinated Program in Dietetics (CPD). This is a concentrated program in which supervised clinical education experiences are incorporated into the baccalaureate curriculum,

eliminating the need for an additional postbaccalaureate internship. The CPD program is accredited by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 216 West Jackson Boulevard, Chicago, IL 60605-6995; 312-899-5400.

- Completion of a Bachelor of Science degree in a Didactic Program in Dietetics requiring subsequent completion of an accredited postbaccalaureate dietetic internship program. The University assumes no responsibility for the placement or supervision of graduates in dietetic internships. The Didactic Program in Dietetics is approved by the Commission on Accreditation for Dietetics Education of the American Dietetic Association.

Both preceding options are available at SHRS. The emphasis in both programs is clinical dietetics practice. Admission prerequisites for both options are the same. For more information on these programs, see www.shrs.pitt.edu/cdn/degrees/undergrad.html.

Admission Prerequisites for CDN:

Biological Sciences	4 credits: (University of Pittsburgh students should take BIOSC 0150 Foundations of Biology 1) with lab.
Chemistry (general)	8 credits: Courses must include labs (University of Pittsburgh students should take CHEM 0110 and 0120 General Chemistry 1 and 2.)
Chemistry (organic)	3–6 credits: (University of Pittsburgh students should take CHEM 0350 [3 credits] offered each fall or must take CHEM 0310 and 0320 Organic Chemistry 1 and 2 [6 credits] to satisfy the organic chemistry requirement.)
Computer Science	3 credits: (University of Pittsburgh students should take CS 0110 Computers and Networks or 0131 Software for Personal Computing.)
Economics	3 credits: (University of Pittsburgh students should take ECON 0800 Introduction to Economics.)
English Composition	3 credits: (University of Pittsburgh students should take ENGCMP 0200 Seminar in Composition); see also W course requirement below.
Algebra	2–4 credits: algebra and trigonometry (University of Pittsburgh students should take MATH 0031 Algebra and 0032 Trigonometry and Functions, 0100 Preparation for Business Calculus, or 0200 Preparation for Scientific Calculus.)
Introduction to Psychology	3 credits: (University of Pittsburgh students should take PSY 0010 Introduction to Psychology.)
Public Speaking	3 credits: (University of Pittsburgh students should take COMMRC 0520 Public Speaking.)
Sociology	3 credits: (University of Pittsburgh students should take SOC 0010 Introduction to Sociology.)
Statistics	3–4 credits: (University of Pittsburgh students should take STAT 0200 Basic Applied Statistics or 1000 Applied Statistical Methods.)
W Course	3 credits: in any advanced composition course or in any course with a writing component (as designated with a W or WRIT in the *Schedule of Classes*) after English composition requirement has been completed.
***Introduction to Human Nutrition**	3 credits: (University of Pittsburgh students should take CDN/HRS 1006.)
***Introduction to the Profession of Dietetics**	1 credit: CDN 1600.
***Social and Cultural Determinants of Food**	3 credits: CDN 1612. (Transfer students may take this in their junior year.)

*Provisions will be made for transfer students to take these courses during the fall term of the junior year, after admission to the program.

Coordinated Program in Dietetics (CPD) Curriculum

FALL TERM—Junior Year			**CREDITS**
HRS	1000	Introduction to Research	2
HRS	1023	Human Physiology	4
CDN	1620	Macronutrient Metabolism	3
CDN	1609	Clinical Biochemistry	3
CDN	1601	Introduction to Medical Terminology	1
CDN	1602	Nutrition Assessment 1	3
			16

SPRING TERM—Junior Year			**CREDITS**
HRS	1025	Introduction to Microbiology	3
CDN	1610	Food Science 1	3
CDN	1613	Food Science 1 Laboratory	1
CDN	1604	Food Service Systems Management with Laboratory	4
CDN	1621	Micronutrient Metabolism	3
			14

SUMMER SESSION 1—Junior Year			**CREDITS**
CDN	1606	Nutrition and Diet in Disease	4
CDN	1603	Nutrition Assessment 2	3
			7

FALL TERM—Senior Year			**CREDITS**
CDN	1605	Principles of Nutrition Education	3
CDN	1607	Nutrition Research Seminar	1
CDN	1611	Food Sciences 2	3

CDN	1630	Medical Nutrition Therapy 1	3
CDN	1631	Supervised Practice: Medical Nutrition Therapy 1	6
			16

SPRING TERM—Senior Year			CREDITS
CDN	1608	Trends and Issues in Dietetics	2
CDN	1622	Nutrition in the Life Cycle	3
CDN	1635	Supervised Practice: Community Nutrition	2
CDN	1632	Medical Nutrition Therapy 2	3
CDN	1633	Supervised Practice: Medical Nutrition Therapy 2	6
			16

SUMMER SESSION 1—Senior Year			CREDITS
CDN	1634	Supervised Practice: Nutrition Care Management	4

SUMMER SESSION 2—Senior Year			
CDN	1636	Supervised Practice: Nutrition Management and Extended Care	2
TOTAL CREDITS			**73**

Didactic Program in Dietetics Curriculum

FALL TERM—Junior Year			CREDITS
HRS	1000	Introduction to Research	2
HRS	1023	Human Physiology	4
CDN	1609	Clinical Biochemistry	3
CDN	1620	Macronutrient Metabolism	3
CDN	1601	Introduction to Medical Terminology	1
CDN	1602	Nutrition Assessment 1	3
			16

SPRING TERM—Junior Year			CREDITS
HRS	1025	Introduction to Microbiology	3
CDN	1604	Food Service Systems Management with Laboratory	4
CDN	1610	Food Science 1	3
CDN	1613	Food Science 1 Laboratory	1
CDN	1621	Micronutrient Metabolism	3
			14

SUMMER SESSION 1—Junior Year			CREDITS
CDN	1603	Nutrition Assessment 2	3
CDN	1606	Nutrition and Diet in Disease	4
			7

FALL TERM—Senior Year			
CDN	1605	Principles of Nutrition Education	3
CDN	1607	Nutrition Research Seminar	1
CDN	1611	Food Science 2	3
CDN	1630	Medical Nutritional Therapy	3
		Elective(s)	3
			13

SPRING TERM—Senior Year			CREDITS
CDN	1608	Trends and Issues in Dietetics	2
CDN	1622	Nutrition in the Life Cycle	3
CDN	1632	Clinical Dietetics 2—Didactic	3
CDN	1635	Supervised Practice: Community Nutrition	2
		Elective(s)	2
			12

TOTAL CREDITS	**60**

Communication Science

Department of Communication Science and Disorders (CSD)

Communication is our most human characteristic: It is essential to learning, working, and enjoying family life and friendships. The Department of Communication Science and Disorders offers a major in communication science that focuses on the physical and psychological foundations of communication as well as on the basic structure of language and the process of speech and language development. This major, leading to a BA degree, is particularly appropriate for students considering graduate study in communication science and disorders (speech-language pathology [SLP] and audiology).

One in 10 Americans has a communication disorder because of a developmental speech or language disorder, stroke, head injury, hearing loss, stuttering or voice problem, or some other disorder or problem that interferes with speech, language, or hearing development or use. Each one can be helped in some way by a speech-language pathologist; audiologist; or speech, language, or hearing scientist.

The field of communication science and disorders and the professions of speech-language pathology and audiology are currently among the most attractive and diverse healthcare and educational professions available. The scientific basis appeals to the scientist who has an interest in basic or applied research, and the human clinical element appeals to the practitioner who is motivated to make a difference in people's lives.

Recent projections from the U.S. Department of Labor indicate a shortage of speech-language pathologists and audiologists for many years to come. The future of the job market is healthy due to an increasing public awareness of the need for early diagnosis of speech, language, and hearing disorders; an awareness of the educational, social, and employment benefits of remediation programs for communication disorders; an aging population; and a concern about occupationally induced hearing disorders, among other factors. The need for speech, language, and hearing scientists is also great—there are many research and academic opportunities for those interested in research in these fields. For more information on the Department of Communication Science and Disorders and the degrees it offers, visit www.shrs.pitt.edu/csd. Other Web sites of interest are www.asha.org and www.audiology.org.

The undergraduate degree in communication science is also an excellent preparation program for graduate work in education of the deaf and hard of hearing, elementary or special education, the neurosciences, speech and hearing sciences, and other health-related professions such as rehabilitation counseling, occupational therapy, and

physical therapy. The necessary additional prerequisites for these programs can be taken while completing the major.

Admission Requirements

Students can enter the communication science program, either from CAS or from another institution, once they have completed approximately 60 credits. Students entering the University of Pittsburgh as freshmen will be admitted initially to the College of Arts and Sciences (CAS) through the Office of Admissions and Financial Aid. After the first two years of study in CAS, students will transfer to the School of Health and Rehabilitation Sciences. During these first two years, students will complete general education requirements (see below). One or more of the introductory major courses may be taken during these first two years (e.g. CSD 1230 Introduction to Speech and Language Pathology, CSD 1232 Introduction to Audiology, CSD 1101 Introduction to Clinical Processes in Speech-Language Pathology and Audiology). Students transferring from outside the University of Pittsburgh should obtain an application form from the SHRS admissions office 412-383-6557. Students should submit transfer or application forms once they have completed approximately 45 credits. (The academic program code for this major is 390115). Students should make direct contact with the CSD Academic Advisor, 412-383-6562, for help with the transfer process. Early contact with the academic advisor is also recommended to take advantage of the specialized advising available during freshmen and sophomore years.

Course requirements for the undergraduate major in communication science:

(Total credits required—120)

Basic Skills Requirements	**CREDITS**
Basic Writing or Exemption	3
English Composition	3
Algebra	3
Quantitative Reasoning	3
Two writing courses (W)*	6
Foreign Language—first and second levels (e.g., Spanish, Latin, ASL) (also satisfied by three years of high school foreign language)	6

*May be combined with another requirement (e.g., literature, history, etc.)

General Education Requirements	**CREDITS**
English or American Literature	3
Music or Art	3
Second Literature/Music/Art or Creative Expression	3
History	3
Philosophy	3
Social Science	3
Natural Science	3
Life (e.g., Biology, Psychology, Neuroscience)	6
Physical (e.g., Physics, Chemistry, Geology, Astronomy)	3
International Culture	6
International Non-Western Culture	3

(Pending a decision by the American Speech-Language-Hearing Association, one introductory biology and one introductory physics course may be required for this major and thus would be good choices for these natural science requirements. Contact the CSD academic advisor for more information 412-383-6562.)

Note: *It is not necessary to complete all of the general education courses listed above prior to transfer to the major, but it is advisable to include as many of these courses as possible in the 60 required credits. Any outstanding general education courses can be completed in the junior and senior years while enrolled in the communication science program.*

Major (Core) Courses (40–41 credits)

Courses in the communication science major are offered in fall and spring terms. Several courses have prerequisites, and care needs to be taken when planning the curriculum. The suggested sequence of courses is outlined below. Courses marked with * may be taken earlier in freshman or sophomore years. The full schedule for each semester is completed with any remaining general education or mandatory elective requirements, minor or certificate courses, or other elective courses. Interested students should be aware that the core course requirements may change before this University bulletin is revised again. Please consult with the CSD academic advisor 412-383-6562 for current information.

Junior Year

Fall		**CREDITS**
CSD 1020	Nature of Language	3
CSD 1022	Transcription Phonetics	3
CSD 1023	Anatomy and Physiology of Speech	3
CSD 1027	Lab in Anatomy and Physiology of Speech	1

Spring		**CREDITS**
CSD 1230*	Introduction to Speech and Language Pathology	3
CSD 1101*	Introduction to Clinical Processes in SLP and Audiology	3
CSD 1021	Language Development	3
CSD 1026	Speech Science	3
CSD 1030	Lab in Speech Science	1

Senior Year

Fall		**CREDITS**
CSD 1232*	Introduction to Audiology (may be taken in junior year)	3
CSD 1024	Anatomy and Physiology of Hearing	3
CSD 1029	Lab in Anatomy and Physiology of Hearing	1

Spring		**CREDITS**
CSD 1025	Hearing Science	3
CSD 1028	Lab in Hearing Science	1
CSD 1233	Introduction to Research	3
CSD 1231**	Evaluation and Treatment of Communication Disorders	3

**Periodically, a 1-credit writing practicum is offered with this course. Contact the CSD academic advisor for more information.

Mandatory Electives (cluster courses)

Five courses must be completed, one from each of the areas

listed below. These courses are designed to ensure that the student is well educated in related disciplines, in keeping with the place of communication science and disorders at the confluence of several realms of study.

1. **Statistics and Measurement**
   Basic Applied Statistics, Applied Statistical Methods
2. **Biological, Neurological, Cognitive Foundations of Language**
   Foundations of Biology (1 and 2), Sensation and Perception, Introduction to Biopsychology, Learning and Motivation, Cognitive Psychology, Brain and Behavior, Introduction to Neuroscience
3. **Philosophy of Science**
   Principles of Scientific Reasoning; Introduction to Philosophy of Science; Mind and Medicine; Morality and Medicine; Philosophy and Rise of Modern Science; Magic, Medicine, and Science
4. **Sociocultural Studies**
   Introduction to Cultural Anthropology; History of Medicine and Health Care; Social Problems; Science in Society; Global Society; Introduction to Social Psychology; Language, Gender, and Society; Cross-Cultural Communication.
5. **Lifespan Developmen**
   *Developmental Psychology, *Child Development, Nature of the Young Child, Lifespan Development, Adolescent Psychology, Psychology of Aging

*A course in either developmental psychology or child development is required for professional certification in SLP or audiology.

Note:
1) Some of these courses may simultaneously satisfy general education requirements (e.g., social science, public policy, philosophy, natural science [life], or quantitative reasoning). Consult with the CSD academic advisor for guidance.
2) Students can consult with the CSD academic advisor to discuss other possible courses to meet these mandatory elective requirements.

Related Area/Minor

No additional related area or minor is required for this undergraduate degree. However, many students are able to complete certificate programs or minors in addition to the requirement for the BA in communication science. In recent years, students have attained certificates in conceptual foundations of medicine, Latin American studies, American Sign Language, and children's literature and minors in neuroscience, linguistics, and sociology. These are only a few of the many certificate and minor programs available at the University of Pittsburgh.

Pennsylvania Education Certification in Speech-Language Impaired

Students wishing to practice as speech-language pathologists in Pennsylvania public schools after graduate school must complete, in addition to other master's and certification requirements, at least one 3-credit course in each of the following content areas: 1) child development, 2) foundations of education, 3) instructional methods (regular methods), and 4) instructional methods (special learning needs). These courses can be taken as electives in the undergraduate degree program.

Emergency Medicine

A Bachelor of Science degree in emergency medicine can benefit the emergency medical services (EMS) professional in many ways. This dynamic and multidisciplinary approach to emergency medicine education will provide the student with a strong foundation in clinical experiences, educational expertise, and administrative leadership. This program is designed to meet the growing need for the advanced skill levels required in the EMS profession and to prepare the student for the technical, clinical, and administrative challenges of a career in EMS and health care.

This unique program recognizes that EMS professionals will be entering this program with varying levels of education and is designed accordingly to be flexible to handle this diversity. The program can be completed on a part-time or full-time basis and permits entry at various levels based on the student's career and academic experience.

The Emergency Medicine Program is a joint effort of the School of Health and Rehabilitation Sciences, School of Nursing, School of Medicine (Department of Emergency Medicine), and the Center for Emergency Medicine. For more information on the program, see www.shrs.pitt.edu/emergency.

Prerequisite Courses

Students are required to take the following prerequisite courses during their freshman and sophomore years:

	CREDITS
General Chemistry (must include lab)	4
Introduction to Biology/Microbiology	3
Anatomy and Physiology	4
Psychology	3
Computer Science	3
Life Span Development	3
English Composition	6
Humanities, Social or Natural Science	9
Ethics	3
Algebra/Advanced Math	2–3
Public Speaking	3
EMT with Lab	4
Introduction to Nutrition	3
Electives (healthcare focus)	9–10
Total prerequisite credits	59–61
Total SHRS credits	64–68
Total credits	123–129

Emergency Medicine Curriculum

FALL TERM—Junior Year			CREDITS
EM	1111	Foundations of EMS	3
EM	1112	Pathophysiology	3
EM	1114	Medication Administration Lab	1
EM	1115	Techniques of Physical Exam	3
EM	1116	Foundations Lab 1	1

EM	1117	EMS Operations	3
EM	1131	Clinical 1	3
			17

SPRING TERM—Junior Year			**CREDITS**
EM	1113	Pharmacology	3
EM	1122/1123	Cardiology and Respiratory/Lab	4
EM	1124	Medical 1	3
EM	1125	Medical 2	3
EM	1126	Foundations Lab 2	1
EM	1132	Clinical 2	4
			18

FALL TERM—Senior Year			**CREDITS**
EM	1140	Critical Care Clinical	1–3
EM	1157	Issues in Healthcare Education	3
EM	1158	Finance and Accounting EMS Leaders	3
EM	1162	Legal Issues in Health Care	3
EM	1170	Critical Care Paramedic 1	3
			13–15

SPRING TERM—Senior Year			**CREDITS**
EM	1150	Professional Issues in EMS	3
EM	1156	Research Methods	3
EM	1161	EMS Management	3
EM	1163	Issues in EMS	3
EM	1171	Critical Care Paramedic 2	3
			15

Health Information Management (HIM)

In medical facilities, the health information management department is the key health information center for the medical staff, administrators, other health professionals, and the community. A registered health information manager directs the work of this department and is part of the management team in the healthcare facility, helping with decisions affecting patients and the institution. Health information managers design, develop, evaluate, and manage health information systems and disease registries in all types of healthcare facilities, organizations, and agencies.

Health information management graduates are prepared to function in settings such as acute-care hospitals, psychiatric facilities, ambulatory-care facilities, physician office practices, long-term care facilities, mental health agencies, rehabilitation centers, consulting firms, cancer registries, and education research institutions.

In order to meet the data requirements of all facets of the healthcare delivery system, a broad-based curriculum has been designed for health information management students. The health information manager combines knowledge of health care, health records, information management, and administration to provide quality services that meet the medical, epidemiological, administrative, legal, ethical, regulatory, and institutional requirements of the healthcare delivery system being served. The graduate must also have an understanding of anatomy, physiology, pathophysiology, epidemiological research, statistical methods, and legal aspects of health care, as well as knowledge of both state and federal regulations.

Clinical education, beginning in the spring term of the junior year, is scheduled at various healthcare institutions to provide the student with real experiences in the profession. The final clinical education is a six-week full-time management affiliation at a healthcare institution within or, at times, outside the state. Students are responsible for expenses during clinical education.

The health information management program is accredited by the Commission on Accreditation of Allied Health Education Programs of the American Medical Association in collaboration with the American Health Information Management Association (AHIMA). Following satisfactory completion of all course requirements, the graduate will be awarded the degree of Bachelor of Science and will be eligible to take the registration examination of the American Health Information Management Association. For more information on the program, see www.him.pitt.edu.

Part-Time Study

Students may pursue this program on a part-time basis. A meeting with the appropriate advisor is recommended.

Progression for the Accredited Record Technician (ART)

Provision for transfer of credits may be made for those students who have satisfactorily completed a junior college health information technology program accredited by the Commission on Allied Health Education and accreditation of the American Medical Association in collaboration with the AHIMA. In addition, the HIM department has an articulation agreement with the Health Information Technology Program at the Community College of Allegheny County. Credit by examination is offered for some of the professional courses. Students may receive a waiver for these courses if they successfully pass the examination.

The Pitt Freshman Guarantee

All incoming Pitt freshmen choosing the Pre-Health Information Management major (code 170110) will be granted guaranteed admission (at regional Pitt campuses, choose corresponding codes).

Admission Prerequisites

A minimum of 60 college credits is required, including the following prerequisite courses:

	CREDITS
General Writing	6
Psychology (general)	3
Introduction to Biology (courses must include labs)	3
Introduction to Chemistry	3
*Mathematics (college algebra)	2–3
*Statistics	3–4

Communication (public speaking)	3
**Computer Science (including a programming information science course; recommended programming Pascal or C++)	9

*Students must have a total of 6 credits between math and statistics.

**Students who wish to complete the 12-credit sequence of computer science credits available through the University's Department of Computer Science may arrange to do so. For health information management majors, this could mean 3 credits in addition to those required for prerequisites. Combined students are required to take C++.

Course work in the following subject areas is recommended:

- Economics
- Accounting
- Business administration
- Computer science
- Information science
- Additional behavioral or experimental psychology courses

Other admission criteria include minimum cumulative QPA of 2.50 (based on 4.00), and minimum of a C- grade in all courses designated as prerequisite; volunteer or paid work experience in the field of health information management is recommended.

Health Information Management Program Curriculum

FALL TERM—Junior Year			CREDITS
HRS	1020	Introductory Anatomy and Physiology	3
HRS	1021	Anatomy and Physiology Laboratory	1
HRS	1027	HRS Pathophysiology	4
HIM	1405	Medical Terminology (independent study)	0
HIM	1406	Data Base Theory and PC Tools for HIM Professionals	2
HIM	1407	Data Base Theory and PC Tools for HIM Professionals Lab	1
HIM	1415	Introduction to Health Information and the Healthcare System	3
HIM	1416	Introduction to Health Information and the Healthcare System Lab 1	1
HIM	1420/	Organization Theory and Concepts	
HRS	1009	in Health Care Facilities	3
			18

SPRING TERM—Junior Year			CREDITS
HIM	1435	Classification Systems in Health Care	3
HIM	1436	Classification Systems Lab 2	1
HIM	1438	Cancer Registry Theory and Practice Lab	2
HIM	1440	HIM Clinical Education 1	2
HIM	1442	Application of Statistical Concepts in HIM	3
HIM	1455	Quality Management	2
HIM	1456	Quality Management Lab 3	1
			14

SUMMER SESSION 1—Junior Year			CREDITS
HIM	1445	Human Relations in the Health Care System	2
HIM	1460	HIM Clinical Education 2	1
HIM	1462	Epidemiology	2
HIM	1465	Reimbursement Seminar	1
			6

FALL TERM—Senior Year			CREDITS
HIM	1470	Supervision of Human Resources in Health Care	3
HIM	1475	HIM in Nontraditional Settings	3
HIM	1480	HIM Clinical Education 3	2
HIM	1482	Legal Aspects of Health Care	2
HIM	1485	Systems Analysis in Healthcare Settings	3
			13

SPRING TERM—Senior Year			CREDITS
HIM	1486	Financial Management for HIM	2
HIM	1490	Electronic Health Records	3
HIM	1495	HIM Clinical Education 4	4
HIM	1496	Senior Project	3
			12

TOTAL CREDITS	**63**

Note: *For part-time and registered health information technician students, HIM Clinical Education 1440, 1460, 1480, 1495 and HIM 1496 (Senior Project) may be taken in any term with permission of advisor and the instructor after the appropriate prerequisite courses have been completed.*

The following elective courses are also suggested:

- Accounting
- Behavioral or experimental psychology
- Biostatistics and research methodology
- Communication (speech)
- Computer science
- HRS 1006 Introduction to Human Nutrition
- Information science
- Management science
- Pharmacology

Combined HIM/HRS Graduate Program

The health information management (HIM) program, in conjunction with the School of Health and Rehabilitation Sciences' (SHRS) graduate program, offers a combined program that enables students to obtain a Master of Science degree in HRS with an emphasis in health information systems and a specialization in HIM. The combined program qualifies the graduate as an entry-level health information manager with advanced preparation in health information systems. The program prepares professionals who are responsible for the development and management of health information systems consistent with the clinical, fiscal, administrative, ethical, and legal requirements of healthcare institutions.

Applicants to this program must have a bachelor's degree and must have met all the prerequisites required for entry

into the undergraduate program in HIM (see admissions requirements for HIM).

The curriculum consists of 50 undergraduate credits and 39–40 graduate credits. Students are admitted in the fall term only, and six terms of full-time study are required to complete the program. Students will be admitted initially as undergraduate students in the HIM undergraduate program. At the end of the spring term, qualified, first-year SHRS students may, upon recommendation of the HIM program faculty, begin graduate studies in the fall term of the second year. Qualified students who do not wish to enroll or students who are not accepted into the program may at that time continue as undergraduates and complete a second bachelor's degree with a major in health information management. For more information, see www.him.pitt.edu.

Note: *All students must complete the entire program that they select (either the program with a major in health information management or the combined program) to be eligible to take the American Health Information Management Association Registration Examination.*

Combined Program Curriculum

FALL TERM—First Year

Follow curriculum for HIM undergraduate program.

SPRING TERM—First Year

Follow curriculum for HIM undergraduate program.

Students should apply for admission to the combined program prior to Summer Session 1.

SUMMER SESSION 1—First Year			**CREDITS**
HIM	1445	Human Relations in the Health Care System	2
HIM	1460	HIM Clinical Education 2	1
HIM	1462	Epidemiology	2
HIM	1465	Reimbursement Seminar	1
BIOST	2011*	Statistics (or PIA 2007 or PSYED 2014, 2015, or 2016)	2–3
		Elective*+	3
			11–12

FALL TERM—Second Year			**CREDITS**
(If accepted into the combined program, students begin graduate student status this semester.)			
All students must take the comprehensive exam.			
HIM	1475	HIM in Nontraditional Settings	3
HIM	1480	HIM—Clinical Education 3	2
HIM	1482	Legal Aspects of Health Care	2
HIM	1485	Systems Analysis in Health Care Settings	3
HRS	2420*	Introduction to Health Information Systems	3
HRS	2423*	Information Technology in Health Systems	3
HRS	2903*	Issues in the Health System	2
			18

SPRING TERM—Second Year			**CREDITS**
HIM	1486	Financial Management for HIM	2
HRS	2424*	Data Base Management	3
TELCOM	2000*	Introduction to Telecommunications	3
HRS	2422*	Object-Oriented and Web Programming	3
HRS	2445*	Human Resource Management/ Labor Relations	3
			14

SUMMER TERM—Second Year			**CREDITS**
Students should take the comprehensive examination this term.			
HRS	2437*	Implementing Information Technology	2
HRS	2428*	Software Engineering Project Management	3
HRS	2921*	Clinical Internship	4
HRS	2438*	Research Methods Data Analysis	2
		Elective*+	3
			14

Total number of undergraduate credits	50
Total number of graduate credits	39–40
TOTAL CREDITS	**89–90**

*Graduate Course
+Students choosing the thesis option would take research credits instead of electives.
The scheduling of graduate courses may vary; this is dependent upon the schedule of courses offered by each particular school each semester.

Coordinated Health Information Management BS in Preparation for the MHA (GSPH) Program

The health information management program offers a coordinated program that provides an opportunity for students with upper-level management career objectives to receive intensive and more advanced management education. The program provides an excellent avenue for advancement within the management hierarchy of healthcare organizations by building on the courses in the undergraduate HIM program.

The coordinated program enables HIM students to obtain a Bachelor of Science degree and prepares students to seek admission to the Graduate School of Public Health, which awards the Master of Health Administration degree.

Applicants to the coordinated program must have all the prerequisites required for entry into the undergraduate HIM program. Students will be admitted initially as undergraduates and then seek admission to the coordinated program.

Coordinated Program Curriculum

Students will follow the same curriculum as outlined in the health information management undergraduate program. Students will be eligible to take the American Health

Information Management Association National Registration Examination.

Rehabilitation Science

The Bachelor of Science program in rehabilitation science recognizes the emerging field of rehabilitation science and is designed to prepare students for graduate education in occupational therapy, physical therapy, and rehabilitation technology, as well as for graduate and professional studies in other healthcare fields.

Early Admission Policy

Students enrolled in the rehabilitation science program will be considered for early admission into the Master of Occupational Therapy or Doctor of Physical Therapy programs, as well as the graduate programs in rehabilitation counseling and rehabilitation science and technology. Eligible students will have a minimum overall undergraduate QPA of 3.30, a minimum prerequisite QPA of 3.30 and meet all admission criteria for the specific graduate program.

Admission Requirements

Students are admitted to the rehabilitation science program after successful completion of a minimum of 60 college credits, including the following prerequisite courses:

	CREDITS
General Biology and Lab	4
General Chemistry and Lab	4
Physics 1	3–4
Mathematics	2–3
Statistics	3–4
Psychology	6
Writing/English Composition	6
Computer Science	3
Total Prerequisites	31–34

Note: *Students planning to apply to the Doctor of Physical Therapy (DPT) program are encouraged to complete most of the prerequisite courses (e.g., Physics 2, Biology 2, Chemistry 2, etc.) prior to admission. Anatomy and physiology (a prerequisite for the DPT program) is included in the rehabilitation science curriculum.*

Other Admission Criteria:

- A minimum of 60 college credits
- Minimum cumulative QPA of 2.50 (based on 4.00)
- Minimum prerequisite QPA of 2.50
- A minimum grade of C- in all courses designated as prerequisites
- Letter of recommendation from a faculty member

Required Courses

	CREDITS
Human Anatomy	4
Human Physiology	4
Neuroscience	4
Exercise Physiology	3
Kinesiology and Biomechanics	3
Introduction to Rehabilitation Science	3
Rehabilitation Ethics	2
Medical Terminology	1
Issues in Health Care	3
Human Development	3
Pathophysiology/Human Disease	3
Epidemiology of Disability	3
Pharmacology in Rehabilitation	3
Tests and Measurements	3
Psychology and Sociology of Disability	3
Introduction to Evidence-Based Rehabilitation	3
Introduction to Occupational Science	3
Electives	9
Total SHRS Required Courses	**60**

Pre-SHRS curriculum = 60 credits
(including prerequisites)
SHRS curriculum = 60 credits
TOTAL DEGREE = 120 credits

Standard Plan of Study

JUNIOR YEAR—Term 1		CREDITS
REHSCI 1200	Human Anatomy/Lab	4
REHSCI 1205	Human Physiology and Lab	4
REHSCI 1225	Introduction to Rehabilitation Sciences	1
REHSCI 1245	Human Development	3
REHSCI 1235	Medical Terminology	1
		13

JUNIOR YEAR—Term 2		CREDITS
REHSCI 1220	Kinesiology/Biomechanics	3
REHSCI 1270	Tests and Measurements	3
REHSCI 1255	Epidemiology of Disability	3
REHSCI 1275	Introduction to Occupation Science	3
	Electives	3
		15

SENIOR YEAR—Term 1		CREDITS
REHSCI 1210	Neuroscience	4
REHSCI 1215	Exercise Physiology	3
REHSCI 1230	Rehabilitation Ethics	2
REHSCI 1285	Introduction to Evidence-Based Rehabilitation	3
	Electives	3
		15

SENIOR YEAR—Term 2		CREDITS
REHSCI 1240	Issues in Health Care	3
REHSCI 1250	Pathophysiology/Human Disease	3
REHSCI 1265	Pharmacology in Rehabilitation	3
REHSCI 1280	Psychology and Sociology of Disability	3
	Electives	3
		15

Athletic Training Concentration

The undergraduate athletic training education concentration earned initial Commission on Accreditation of Allied Health Education Programs (CAAHEP) accreditation in 1997. Prior to this, the curriculum had been National Athletic Trainers' Association (NATA)-approved since 1978. The

athletic training curriculum is defined by the current NATA Board of Certification (NATABOC) Role Delineation Study, which consists of six performance domains to include: 1) prevention; 2) recognition, evaluation, and assessment; 3) immediate care; 4) treatment, rehabilitation, and reconditioning; 5) organization and administration; and 6) professional development and responsibility. The curriculum is structured to provide both academic and clinical instruction. The academic course work includes such courses as anatomy, kinesiology, human and exercise physiology, injury evaluation and treatment, and therapeutic modalities and exercise. This course work provides a foundation for the hands-on laboratory experiences provided in the clinical setting. The students' clinical education includes apprenticeships with the faculty athletic trainers and team physicians in providing sports medicine services to the University of Pittsburgh varsity athletic teams. Upon completion of the four-year baccalaureate degree, including the athletic training concentration, the students are eligible to sit for the NATABOC certification examination. Successful completion of this exam affords the candidate a variety of employment opportunities including athletic training positions at the high school, college, or university level; sports medicine and rehabilitation clinics; and professional athletic teams.

Procedures

Application to the athletic training education concentration is made following successful completion of at least 45 credits including REHSCI 1811 and 1812 Basic Athletic Training and Basic Athletic Training Lab. Notification of admission occurs following a personal interview with the athletic training faculty and verification of successful completion of all prerequisite criteria.

Prerequisites for Admission

A. Completion of the following	**CREDITS**
1. Foundations of Biology / Lab BIOSCI 0150 / 0050	4
2. General Chemistry / Lab CHEM 0110	4
3. Introduction to Physics PHYS 0110	3
4. Mathematics, Algebra MATH 0031	2
5. Statistics, Basic Applied Statistics STAT 0200	4
6. Psychology, Introduction to Psychology, Developmental Psychology PSY 0010, 0310	6
7. Writing / English Composition ENGCMP 0200 minimum	6
8. Computer Science, Software for Personal Computing CS 0131	3
9. Public Speaking COMMRC 0520	3
10. First Aid / CPR HPRED 1022 or PEDC 0196	2
11. Introduction to Rehabilitation Sciences REHSCI 1225	1
12. Basic Athletic Training REHSCI 1811	3
13. Basic Athletic Training Lab REHSCI 1812	1

A grade of C- or better is required for 1–10.
A grade of B or better is required for 11–13.

43 credits of prerequisite course work

17 additional credits of elective course work required

B. Successful completion of at least 60 credits of course work prior to admission.

C. Forty-five clinical observation hours under the direct supervision of a certified athletic trainer at the University of Pittsburgh. These hours are made available to students who are registered for REHSCI 1811 Basic Athletic Training.

D. Twenty hours of observation outside the University of Pittsburgh and under the direct supervision of a certified athletic trainer. The 20 hours must be distributed evenly between a high school facility and a sports medicine clinic.

E. Completion of admissions application including technical standards for admission.

Technical Standards for Admission

The Athletic Training Education Program at the University of Pittsburgh is a rigorous and intense program that places specific requirements and demands on the students enrolled in the program. An objective of this program is to prepare graduates to enter a variety of employment settings and to render care to a wide spectrum of individuals engaged in physical activity. The technical standards set forth by the Athletic Training Education Program establish the essential qualities considered necessary for students admitted to this program to achieve the knowledge, skills, and competencies of an entry-level athletic trainer, as well as meet the expectations of the program's accrediting agency (Commission on Accreditation of Allied Health Education Programs [CAAHEP]).

The following abilities and expectations must be met by all students admitted to the Athletic Training Education Program.

Candidates for selection to the Athletic Training Education Program must demonstrate:

- The mental capacity to assimilate, analyze, synthesize, integrate concepts, and problem solve to formulate assessment and therapeutic judgments and to be able to distinguish deviations from the norm.
- Sufficient postural and neuromuscular control, sensory function, and coordination to perform appropriate physical examinations using accepted techniques; and accurately, safely, and efficiently use equipment and materials during the assessment and treatment of patients.
- The ability to communicate effectively and sensitively with patients and colleagues, including individuals

from different cultural and social backgrounds; this includes, but is not limited to, the ability to establish rapport with patients and communicate judgments and treatment information effectively. Students must be able to understand and speak the English language at a level consistent with competent professional practice.
- The ability to record the physical examination results and a treatment plan clearly and accurately.
- The capacity to maintain composure and continue to function well during periods of high stress.
- The perseverance, diligence, and commitment to complete the athletic training education program as outlined and sequenced.
- Flexibility and the ability to adjust to changing situations and uncertainty in clinical situations.
- Affective skills and appropriate demeanor and rapport that relate to professional education and quality patient care.

Candidates for selection to the Athletic Training Education Program will be required to meet these technical standards with or without reasonable accommodation.

Selection Criteria

Based upon the following:

A. Overall minimum QPA of 2.80

B. Completion of all prerequisites

C. Personal interview

D. Personal qualities important for athletic training, i.e., enthusiasm, motivation, positive health habits, strong work ethic, and time commitment

Athletic Training Curriculum Sequence

The following course sequence is identical for all athletic training students in the junior and senior years.

JUNIOR YEAR—First Term		CREDITS
REHSCI 1200	Human Anatomy and Lab	4
REHSCI 1205	Human Physiology and Lab	4
REHSCI 1821	Injury Evaluation and Treatment 1	3
REHSCI 1824	Athletic Training Practicum 1	3
REHSCI 1831	Therapeutic Modalities and Lab	4
		18

JUNIOR YEAR—Second Term		CREDITS
REHSCI 1220	Kinesiology and Biomechanics	3
REHSCI 1822	Injury Evaluation and Treatment 2	3
REHSCI 1832	Therapeutic Exercise and Lab	4
REHSCI 1833	Strength and Conditioning	2
REHSCI 1835	Athletic Training Practicum 2	3
		15

SENIOR YEAR—First Term		CREDITS
HRS 1006	Introduction to Human Nutrition	3
REHSCI 1215	Exercise Physiology	3
REHSCI 1823	Administrative Aspects of Athletic Training	3
REHSCI 1235	Medical Terminology	1
REHSCI 1841	Athletic Training Practicum 3	3
		13

SENIOR YEAR—Second Term		CREDITS
REHSCI 1240	Issues in Health Care	3
REHSCI 1265	Pharmacology	3
REHSCI 1270	Tests and Measurements	3
REHSCI 1834	Orthopedic Problems	2
REHSCI 1842	Athletic Training Practicum 4	3
		14

School of Health and Rehabilitation Sciences Course Offerings

The following courses are offered by the School of Health and Rehabilitation Sciences:

			CREDITS
HRS COMMON COURSES			
HRS	1000	Introduction to Research	2
HRS	1005	Administration and Supervision	3
HRS	1006	Introduction to Human Nutrition	3
HRS	1008/	Application of Statistical	
HIM	1442	Concepts in HIM	3
HRS	1009/	Organization Theory and	
HIM	1420	Concepts in Healthcare Facilities	3
HRS	1020	Introductory Anatomy and Physiology	3
HRS	1021	Anatomy and Physiology Laboratory	1
HRS	1022	Human Anatomy	4
HRS	1023	Human Physiology	4
HRS	1025	Introduction to Microbiology	3
HRS	1026	Pathophysiology	4
HRS	1027	HRS Pathophysiology	4
HRS	1099	Independent Study	Variable
CLINICAL DIETETICS AND NUTRITION			
CDN	1006	Introduction to Human Nutrition	
CDN	1600	Introduction to Profession of Dietetics	1
CDN	1601	Introduction to Medical Terminology	1
CDN	1602	Nutrition Assessment 1	3
CDN	1603	Nutrition Assessment 2	2
CDN	1604	Food Service Systems Management with Lab	4
CDN	1605	Principles of Nutrition Education	4
CDN	1606	Nutrition and Diet in Disease	4
CDN	1607	Nutrition Research Seminar	1
CDN	1608	Professional Trends and Issues in Dietetics	2
CDN	1609	Clinical Biochemistry	3
CDN	1610	Food Science 1	3
CDN	1611	Food Science 2	3
CDN	1612	Social and Cultural Determinants of Food Habits	3
CDN	1613	Food Science 1 Laboratory	1
CDN	1620	Macronutrient Metabolism	3
CDN	1621	Micronutrient Metabolism	3
CDN	1622	Nutrition in the Life Cycle	3
CDN	1630	Medical Nutrition Therapy 1	3
CDN	1631	Supervised Practice: Medical Nutrition Therapy 1	6
CDN	1632	Medical Nutrition Therapy 2	3

CDN	1633	Supervised Practice: Medical Nutrition Therapy 2	6
CDN	1634	Supervised Practice: Management of Nutrition Care Services	4
CDN	1635	Supervised Practice: Community Nutrition	1
CDN	1636	Supervised Practice: Nutrition Management in Extended Care	2
CDN	1699	Independent Study	Variable

COMMUNICATION SCIENCE AND DISORDERS

CSD	1020	Nature of Language	3
CSD	1021	Language Development	3
CSD	1022	Transcription Phonetics	3
CSD	1023	Anatomy and Physiology of Speech	3
CSD	1024	Anatomy and Physiology of Hearing	3
CSD	1025	Hearing Science	3
CSD	1026	Speech Science	3
CSD	1027	Lab in Anatomy and Physiology of Speech	1
CSD	1028	Lab in Hearing Science	1
CSD	1029	Lab in Anatomy and Physiology of Hearing	1
CSD	1030	Lab in Speech Science	1
CSD	1099	Independent Study	1–3
CSD	1101	Introduction to Clinical Processes in Speech-Language Pathology and Audiology	3
CSD	1230	Introduction to Speech and Language Pathology	3
CSD	1231	Evaluation and Treatment of Communication Disorders	3
CSD	1232	Introduction to Audiology	3
CSD	1233	Introduction to Research	3
CSD	1234	Writing Practicum for Evaluation and Treatment of Communication Disorders	1
CSD	1902	Directed Study	1–3

EMERGENCY MEDICINE

EM	1102	Emergency Medical Technician	3
EM	1111	Foundations of EMS	3
EM	1112	Pathophysiology	4
EM	1113	Pharmacology	3
EM	1114	Medication Administration Lab	1
EM	1115	Techniques of Physical Exam	3
EM	1116	Foundations Lab 1	1
EM	1117	EMS Operations	3
EM	1122	Cardiology and Respiratory	3
EM	1123	Cardiology Lab	1
EM	1124	Medical 1	3
EM	1125	Medical 2	3
EM	1126	Foundations Lab 2	1
EM	1131	Clinical 1	3
EM	1132	Clinical 2	4
EM	1140	Critical Care Clinical	1–3
EM	1150	Professional Issues in EMS	3
EM	1156	Research Methods	2
EM	1157	Issues in Healthcare Education	3
EM	1158	Finance and Accounting EMS Leaders	3
EM	1161	EMS Management	3
EM	1162	Legal Issues in Health Care	3
EM	1163	Issues in Emergency Medical Services	3
EM	1170	Critical Care Paramedic 1	6
EM	1171	Critical Care Paramedic 2	3
EM	1198	International Study	0
EM	1199	Independent Study	1–6

HEALTH INFORMATION MANAGEMENT

HIM	1405	Medical Terminology (Independent Study)	0
HIM	1406	Data Base Theory and PC Tools for HIM Professionals	2
HIM	1407	Data Base Theory and PC Tools for HIM Professionals Lab	1
HIM	1415	Introduction to Health Information and the Healthcare System	3
HIM	1416	Introduction to Health Information and the Healthcare System Lab 1	1
HIM / HRS	1420 / 1009	Organization Theory and Concepts in Healthcare Facilities	3
HIM	1435	Classification Systems in Health Care	3
HIM	1436	Classification Systems Lab 2	1
HIM	1438	Cancer Registry Theory and Practice Lab	2
HIM	1440	HIM Clinical Education 1	2
HIM / HRS	1442 / 1008	Application of Statistical Concepts in HIM	3
HIM	1445	Human Relations in the Healthcare System	2
HIM	1455	Quality Management	2
HIM	1456	Quality Management Lab 3	1
HIM	1460	HIM Clinical Education 2	1
HIM	1462	Epidemiology	2
HIM	1465	Reimbursement Seminar	1
HIM	1470	Supervision of Human Resources in Health Care	3
HIM	1475	HIM in Nontraditional Settings	3
HIM	1480	HIM Clinical Education 3	2
HIM	1482	Legal Aspects of Health Care	2
HIM	1485	Systems Analysis in Healthcare Settings	3
HIM	1486	Financial Management for HIM	2
HIM	1490	Electronic Health Records	3
HIM	1495	HIM Clinical Education 4	4
HIM	1496	Senior Project	3
HIM	1499	Independent Study	Variable

REHABILITATION SCIENCE

REHSCI	1200	Human Anatomy	4
REHSCI	1205	Human Physiology and Lab	4
REHSCI	1210	Neuroscience	4
REHSCI	1215	Exercise Physiology	3
REHSCI	1220	Kinesiology/Biomechanics	3
REHSCI	1225	Introduction to Rehabilitation Sciences	1
REHSCI	1230	Rehabilitation Ethics	3
REHSCI	1235	Medical Terminology	1

REHSCI	1240	Issues in Health Care	3
REHSCI	1245	Human Development	3
REHSCI	1250	Pathophysiology/Human Disease	4
REHSCI	1255	Epidemiology of Disability	3
REHSCI	1265	Pharmacology in Rehabilitation	3
REHSCI	1270	Tests and Measurements	2
REHSCI	1275	Introduction to Occupational Science	3
REHSCI	1280	Psychology and Sociology of Disability	3
REHSCI	1285	Introduction to Evidenced-Based Rehabilitation	3
REHSCI	1290	Practical Issues in Disability	3
REHSCI	1295	Clinical Internship	Variable
REHSCI	1299	Independent Study	Variable
REHSCI	1811	Basic Athletic Training	3
REHSCI	1812	Basic Athletic Training Lab	1
REHSCI	1821	Injury Evaluation and Treatment 1	3
REHSCI	1822	Injury Evaluation and Treatment 2	3
REHSCI	1823	Administrative Aspects of Athletic Training	3
REHSCI	1824	Athletic Training Practicum 1	3
REHSCI	1831	Therapeutic Modalities and Lab	4
REHSCI	1832	Therapeutic Exercise and Lab	4
REHSCI	1833	Strength and Conditioning	2
REHSCI	1834	Orthopedic Problems	2
REHSCI	1835	Athletic Training Practicum 2	3
REHSCI	1841	Athletic Training Practicum 3	3
REHSCI	1842	Athletic Training Practicum 4	3

■ SCHOOL OF INFORMATION SCIENCES

The information science program prepares information professionals through an interdisciplinary program of studies that draws on the resources of such diverse areas as communications, computer science, linguistics, mathematics, philosophy, and psychology. The program leads to a Bachelor of Science degree. The objectives of the information science program are to develop in students

- an awareness of the importance of information in the lives of all people and
- the necessary skills to work in information environments so that such environments function efficiently and effectively.

Information science is designed to prepare students for careers as systems analysts and designers, database developers and managers, interactive system designers, and information retrieval specialists. An education in information science has universal application throughout society—in banking, health care, libraries, judicial systems, communication, education, agriculture, private industry, and governmental agencies.

Contact Information

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Undergraduate Program
503 Information Sciences Building
Pittsburgh, PA 15260
412-624-9312
perks@pitt.edu or
mkoller@mail.sis.pitt.edu
www.sis.pitt.edu

Admission Procedures

Because the information science program is an upper-division undergraduate program, students should initially apply for admission to either the College of Arts and Sciences (CAS) or the College of General Studies (CGS) of the University. During the first two years, students should pursue the prescribed undergraduate program of studies as outlined by CAS or CGS and then transfer to the information science program.

Students may apply for entrance into the program during any term. Deadlines are August 1 for fall term, December 1 for the spring term, and April 1 for the summer term.

Admission Requirements

To be considered for transfer to the information science program, applicants must present an adequate lower-level undergraduate academic record and be in good standing in the college or school in which they are currently enrolled. Applicants must have earned at least 55 credit hours of course work with a minimum 2.75 cumulative QPA and have at least a 2.75 QPA for all information science courses taken. Meeting these minimum qualifications does not guarantee admission to the program. The total academic record, as well as the probability of completion of the information science program requirements within the remaining credit hours, will be considered. For further information, see the Transfer Students section below.

Part-Time Students

The Department of Information Science and Telecommunications (DIST) welcomes qualified students who for financial, family, medical, or other reasons are unable to attend school full time. For further information, contact the School of Information Sciences (SIS) director of the undergraduate program at the address or phone number listed above.

Transfer Students

Students at other institutions who wish to apply for admission as transfer students to the program should submit a Transfer Application and supporting materials to the Office of Admissions and Financial Aid (See Transfer Student Admissions section of this bulletin for more information). Prospective transfer students should note especially that the evaluation of course work taken at other colleges and universities will be made by SIS. Students who have been admitted as transfer students will be told at the time of admission how much advanced standing credit they have been awarded by SIS.

Students in other undergraduate schools at the University should initiate the process of transferring into the information science program by completing a Change of Status form and requesting the school in which they were most recently

enrolled to send their records to SIS. Students currently on inactive status in the school of last registration must first be reinstated in that school before the transfer process can be completed.

Former SIS students who have enrolled in other institutions may apply for re-admission with advanced standing. Such students should apply to the University's Office of Admissions and Financial Aid. Credits earned elsewhere and accepted for transfer by SIS will be added to those satisfactory credits originally earned at the University of Pittsburgh.

Postbaccalaureate and Guest Students

Postbaccalaureate and guest students are holders of bachelor's degrees who have been permitted to take additional undergraduate course work as nondegree students. The number of credit hours that may be taken by nondegree, postbaccalaureate students is limited to a maximum of 12.

Guest students are students who are matriculated in degree programs elsewhere but who, with the permission of their home schools, wish to take courses in the information science program. The expectation is that credit thus earned will be transferred to the home school to be used in satisfying degree requirements. The home school must certify that the proposed arrangement is satisfactory before such a student will be admitted. Suspended or dismissed students, even with their home school's permission, cannot be admitted as guest students. Guest student status is not usually granted for more than two terms.

Application forms for admission as either a nondegree postbaccalaureate or guest student are available from the SIS office. Acceptance cannot be granted until all necessary materials have been received, including the completed application form, official transcripts, and application fee. The deadlines for application for special students are August 1 for fall term, December 1 for spring term, and April 1 for summer term admissions.

Academic Standards

Students in the program are expected to complete 24 credit hours of work each academic year with a QPA of at least 2.50 (12 credit hours for students granted part-time status). They are also expected to maintain a cumulative QPA of 2.50 and a 2.50 QPA in information science courses. Failure to meet any or all of these conditions automatically places a student on probation. Students who fail to meet these conditions for two consecutive terms and who, in their most recent term of residence, failed to complete 12 credits (6 credits for part-time students) with a QPA of 2.50 are liable to be suspended. Students who have been suspended are not permitted to enroll in University courses for one calendar year.

Students who have been admitted to the information science program are eligible to continue as long as a satisfactory academic standing is maintained or until the degree has been earned. The SIS statute of limitations requires that all of the credits required for the Bachelor of Science degree, whether earned in residence or transferred from another institution, must have been earned within 12 years prior to the date on which the degree is awarded. However, when given evidence that the previous courses still provide adequate preparation for courses yet to be taken and still represent a reasonable part of the total academic program, the SIS director of the undergraduate program may waive this limitation. In such cases, the waiver is for a specific period during which the program must be completed.

Credit Load

A normal credit load ranges from 12 to 18 credits per term, with a minimum of 24 credits in an academic year. Any term credit load in excess of 18 credits requires the recommendation of the SIS director of the undergraduate program and approval of the dean. No more than 60 credits may be taken in one department or school, and usually not more than 40 credits are considered desirable in a well-balanced program.

Course Repetitions

Required courses for an information science major must be repeated or replaced by a comparable course if a grade of C- or lower is received. If a grade of C- or lower is earned in a prerequisite course, the course must be repeated before the higher-level course may be taken. If a grade of C- or lower is earned in any course taken to satisfy a degree requirement, the course must be repeated or replaced. Course repetitions are subject to the following limitations:

- No course passed with a C or higher letter grade or with an S grade may be repeated.
- Required lower-level (INFSCI 0010, 0015, 0018, 0020) courses; technology, cognitive science, or information systems design courses; and advanced courses may be repeated only once. If a grade of C or better (a C- or Satisfactory/Audit grade does not count) is not obtained the second time, the student will be required to transfer from the information science program.
- The grade earned by repeating a course replaces the grade originally earned, although the original grade is not removed from the transcript. The grade originally earned is not counted in the computation of the QPA. The new grade does not increase the number of credits counted toward graduation unless an F grade is replaced by a higher grade or an S grade.
- No course may be repeated at any other institution.
- A specific course may be taken for credit only once.

It is the student's responsibility to submit to the Office of the SIS director of the undergraduate program the appropriate forms for repeated courses.

Duplication of Course Content

In an attempt to restrict the number of courses covering similar subject matter that a student may take for degree credit (120 credits total), limitations have been imposed on certain computer programming language and psychology courses. A listing of these limitations may be obtained from the Office of the SIS director of the undergraduate program.

Courses Taken Elsewhere

Students in good academic standing may attend a summer or special session of another accredited institution in order to supplement their program. To receive credit for such study, the endorsement of the Undergraduate Admissions and Evaluation Committee is required in advance. Students should proceed by presenting the committee with an acceptable proposed program and a bulletin with appropriate course descriptions. Generally, courses may not be a repetition of any course previously taken (passed or failed).

To obtain permission to attend another institution, a student must have begun his or her program at the University of Pittsburgh or have been admitted as a transfer student from another institution with no more than 60 advanced standing credits.

A maximum of two summer or special sessions may be taken at other institutions with a maximum of two courses per session.

Transfer Credits

Students admitted by transfer will have their transfer credits evaluated subject to the following conditions:

- Students who have not satisfied the language requirement (detailed under the Program Description section) shall be required to do so in the first two terms of residence at SIS.
- An official transcript of all courses taken at other institutions must be submitted at the time of application, whether or not it is intended that such courses be counted toward the degree. For acceptance, courses must be passed with a satisfactory grade (C or equivalent) and must be earned at an institution accredited by the appropriate regional accrediting association. Grades for such courses are not used in computing a student's QPA nor in determining probationary status or eligibility for graduation honors.
- Generally, courses that have a reasonable counterpart in the curricula of the various schools/departments of the University of Pittsburgh are eligible for transfer.
- The number of credits granted for a course cannot exceed the number on the transcript from the institution where they were earned nor, usually, exceed the number to be earned in the corresponding course at the University of Pittsburgh.
- No transfer credits may be part of the final 30 required credits for the degree. These credits must be earned in residence at SIS. Credits earned at regional campuses and in foreign programs are considered as transfer credits.
- Credits accepted for advanced standing must have been earned within 12 years of the date when the degree requirements must be completed.
- Transfer credits for courses that do not have reasonable counterparts in the curricula of the various schools or departments of the University cannot be used to satisfy requirements for the degree, unless approved by the SIS director of the undergraduate program.
- No more than 90 credits may be transferred from a four-year institution, and no more than 60 credits may be transferred from a two-year institution.
- If a course for which advanced standing credit has been granted is repeated, the advanced standing credit is canceled.

Credit by Examination

Students may earn credits toward graduation not only by successfully completing courses but also by taking special examinations. Each test for credit by examination must be arranged with the school/department offering the course for which credit is desired. The examination must be in a specific course offered by the faculty of the school or department. Schools/departments may specify the time and type of examination as well as which courses are possible to elect as credit.

Students may not take credit by examination for material prerequisites for college admission. If, during their high school careers, students have mastered material traditionally covered in college courses and not required for college admission, they may request credit by examination for the material if the school's or department's equivalent course is one for which it generally permits credit by examination. Credit by examination cannot be obtained for a college-level course for which credit has already been awarded, nor can it be used to alter a grade already received. Credit may not be earned by examination in lower-level sequence courses when the student has already obtained credit for a higher-level course in the sequence. Students are not permitted to audit courses without registering and then apply for credit by examination. Students wishing to earn credit by examination should consult the school/department in which the course is given and then obtain the requisite form from the appropriate dean's office. There is a fee for the examination whether or not credits are earned.

Grades

The School of Information Sciences uses both the University's letter grade and Satisfactory/Audit (S/N) grade options (see Grading and Records for more information). In addition to the general University rules governing those grading systems, there are a few formal limitations to the SIS student's freedom of choice regarding grading systems:

- Students must decide by one week after the end of the add/drop period which grading system they propose to use for each of their courses. This decision may not be changed, nor may a grade of one kind received for a course be changed to a grade of the other kind (e.g., from an S/N grade to a letter grade).
- Schools/departments may decide which courses may be taken on the S/N system.
- No courses required for the information science major, the related field, information science distribution, general distribution, English composition, or language requirements may be taken on the S/N system.
- Students are limited to a total of 18 credits of S grades that may be applied to the 120 credits required for the degree.

- Students should be sure, before deciding on the grading system for a course, that their decision will not have an adverse effect on their plans for a major.
- Under certain circumstances, schools/departments may declare a course available only on the S/N system (in such courses, students may not elect to receive a letter grade).

Evaluation of a student's ability and achievement in a course is not eliminated by the Satisfactory/Audit (S/N) system. Recitations, tests, and papers may all be required and assessed by instructors who will convey to the student their judgments of the worth of the student's work. Because the publicly recorded evaluation is minimal, students should use the instructor's comments in the most helpful way possible: as a guide to their own future course of study and for assessment of their own potential.

Students may request a supplementary written evaluation of their work in courses taken on a Satisfactory/Audit (S/N) basis by giving the instructor a form designed for this purpose. The form is available in the office of the SIS director of the undergraduate program.

Since it is difficult to evaluate transcripts containing very few letter grades, students seriously considering transferring to the information science program or considering graduate study should keep this in mind. The student may wish to ask instructors from whom they have taken courses on the Satisfactory/Audit (S/N) system to write letters of recommendation for them immediately at the end of the course. The office of the SIS director of the undergraduate program will supply forms for such letters and will make them a permanent part of the student's file. Students may also wish to keep portfolios of their best academic work and other evidence of ability and accomplishment with which they might supplement the formal transcript and letters of evaluation when they apply for transfer or for graduate study. This recommendation is useful for all students whatever grade options they select.

Dean's List

Early in each term, a list is compiled of students whose academic record in the preceding term indicates outstanding academic achievement. To be placed on the SIS Dean's List, a student must have earned at least 12 credits with a grade of A, B, or C; must have no grade lower than C; and must have a term QPA of at least 3.25.

Reinstatement

Students who have resigned or been suspended and other students who have been away from the University for more than one term may apply for reinstatement. A reinstatement application should be submitted to the Undergraduate Admissions and Evaluation Committee at least one month prior to the beginning of the term in which the student plans to enroll. Favorable action may be expected if students provide evidence that they can pursue an academic program with some prospects for success. Since registration advising meetings are usually held from the seventh to the 12th week of the preceding term, applications for reinstatement should be received within that period so that the faculty advisor may assist in planning the program and in registering the student. The student's status upon reinstatement will be that attained at the end of his or her last term in residence or at the beginning of the term during which resignation took place. Applicants will be notified by letter of the action taken on their requests. Any courses that students take at another institution during a period of suspension shall not be granted credit by SIS after the student has been reinstated unless the student petitioned the faculty and received permission in advance.

Dismissal

A suspended student who is subsequently reinstated remains on probation for at least one term and until the cumulative QPA has been raised to at least 2.50 and the information science major QPA has been raised to at least 2.50. As long as the reinstated student remains on probation, failure in any term to complete 12 credits of work (or those credits for which a part-time student has registered) with a cumulative QPA of at least 2.50 and an information science QPA of 2.50 will constitute grounds for dismissal from SIS for five years.

Advising

Since several of the information science courses may be taken during the first and second years of study, information science faculty cooperate with College of Arts and Sciences (CAS) and College of General Studies (CGS) advisors to help students plan the first two years of study. Information science courses taken during the first two years serve two purposes:

1. For those students who are undecided on a major, early contact with information science can provide a basis for deciding whether or not to major in the subject; and

2. For those students who have already decided on information science as a major, the courses can indicate more fully the topics that are of interest and also reduce the load to be taken during the third and fourth years.

Once students have been accepted into the information science program, they are assigned a faculty member as an advisor. Initially, the student and the faculty advisor discuss the student's program in information science, a possible related field (minor), and other academic options. Each term, the student and advisor should review the student's progress and select the courses to be taken to satisfy the student's program goals. In addition, the student and advisor should discuss career goals, educational plans, and any academic-related problems.

SIS policy emphasizes the role of faculty in providing advice for academic decisions, and students are urged to take full advantage of their advisor's experience and knowledge as often as needs arise. To avoid schedule conflicts, students are strongly advised to telephone their advisors for an appointment.

Degree Requirements

To be awarded a Bachelor of Science degree with a major in information science, the student must:

- Earn a minimum of 120 credits with a minimum of 15 of those credits in a related field. A related field consists of five courses. All of the final 30 credits and at least 15 credits in information science (INFSCI) must be taken through SIS.
- Possess a cumulative QPA of at least 2.50 and a QPA of at least 2.50 in the information science major.
- Satisfy the distribution of studies requirement.
- Fulfill any remaining requirements that may have been noted at the time of entrance (e.g., English composition, language requirements, statistics requirements).
- Apply for graduation (see Application to Graduate). Students must be registered for at least three credits in the term in which they expect to graduate.

Special Academic Opportunities/ Programs

The following additional academic opportunities are available through the School of Information Sciences:

Cooperative Program with the University of Pittsburgh at Greensburg

A cooperative arrangement between SIS and the Greensburg campus of the University of Pittsburgh makes it possible for Greensburg students to major in information science. Students may complete most of their course work, including work in major courses, on the Greensburg campus but will typically want to cross register for some courses on the Pittsburgh campus to take advantage of courses and laboratories not available at Greensburg. The Bachelor of Science degree with a major in information science is awarded by SIS. For additional information about this program, students should contact Karen M. Antoniak or J. Wesley Jamison, University of Pittsburgh at Greensburg, 1150 Mt. Pleasant Road, Greensburg, PA 15601.

Information Science as a Related Field

Students from other colleges or schools in the University may desire to select information science as the related field for a degree awarded through their major department or school. The requirements of information science as a related field are:

- INFSCI 0010 Introduction to Information Science
- INFSCI 0015 Data Structures and Programming Techniques or 0018 File Processing or 0020 Program Design and Software Tools
- INFSCI 1042 Human Information Processing or INFSCI 1044 Human Factors in Systems Design
- INFSCI 1022 Data Base Management Systems or INFSCI 1024 Information Systems Analysis and Design
- One additional information science course
- MATH 0120 Business Calculus or 0220 Analytic Geometry and Calculus 1 or 0400 Discrete Mathematical Structures

Enrollment in Graduate Courses

Undergraduates with sufficient preparation are encouraged to take advantage of the rich variety of graduate courses offered by the departments and schools of the University. Students enrolled in the information science program may use credits in graduate courses toward their undergraduate degree. To enroll in a graduate course, students must obtain the written consent of the instructor of the course, have a 3.00 cumulative QPA, and have the approval of the director of the undergraduate program. No special forms are required.

Cross Registration

Students may not cross register for courses counting toward the information science major or information science distribution or for courses available at the University of Pittsburgh, Pittsburgh campus. All students desiring to cross register must receive prior approval from their faculty advisors and the Undergraduate Admissions and Evaluation Committee. (See the general section on Cross Registration for further detail.)

Independent Study Courses

The information science program offers the student the option of conducting an independent study with a Department of Information Science and Telecommunications (DIST) faculty member. Students who have a special project or wish to work in an area not adequately covered by regular DIST courses should request a faculty member to supervise independent work aimed at their particular interests, and, if accepted, they should register for INFSCI 1080 Independent Study. Any student registering for an information science independent study course must have at least five information science courses completed, a 3.00 cumulative QPA, and consent of the faculty advisor and faculty sponsor.

To obtain permission to complete an independent study, students must submit a proposal presenting a design for the project and must find a faculty sponsor who will serve as director. The proposal must include detailed plans for the project. Substantial written work or some other form of creative product is usually one outcome of an independent study course.

Students pursuing the standard major are limited to three credits of independent study course work or three credits of internship. Students pursuing the intensive major are limited to six credits of independent study course work or a combination of three credits of independent study and three credits of internship.

Internship

Students have the opportunity to enroll for an internship during the last year of residence. The internship involves supervised work in an information environment that provides enhanced understanding through application of the skills, methodologies, and theories presented in information science courses. Students are assigned to various departments and activities of the University or businesses throughout the Pittsburgh area for specific projects. Some internship assignments are coordinated through the

University Internship Office, 140 Thackeray Hall. The agreement of the student's faculty advisor and internship instructor is required. Students should expect to work a minimum of 10 hours per week for the internship and may not use regular employment as an internship. If accepted, students should register for INFSCI 1085 Internship. Any student registering for an internship must have at least five information science courses completed and a 3.00 cumulative QPA. To obtain credit for the internship, a copy of the internship agreement form must be forwarded to SIS for inclusion in the student's file, and the student must submit a written document describing the internship experience for evaluation by the internship instructor.

Students pursuing the standard major are limited to three credits of internship or three credits of independent study course work. Students pursuing the intensive major are limited to six credits of internship or a combination of three credits of internship and three credits of independent study course work.

Program Description

The School of Information Sciences offers the Bachelor of Science with a major in information science through the Department of Information Science and Telecommunications (DIST). The requirements outlined in this section represent minimum degree satisfaction. For further information about these requirements, please consult the SIS director of the undergraduate program.

English Composition Requirements

All students entering the College of Arts and Sciences (CAS) as freshmen are required to take a writing placement examination. (For more information on the CAS composition requirement see Skills Requirements in the College of Arts and Sciences section of this bulletin.)

In addition, information science students are required to take either ENGCMP 0400 Written Professional Communication, ENGCMP 0440 Critical Writing, or ENGCMP 0450 Research Writing.

Language Requirements

All students entering the information science program are required to satisfy a foreign language requirement. This requirement can be fulfilled by one of the following:

- Two years of the same foreign language in high school completed with a grade of C or better each year,
- One year of a foreign language in high school completed with a grade of C or better and one term of the same foreign language in college completed with a letter grade of C or better, or
- Two terms of the same foreign language in college completed with a letter grade of C or better.

If the foreign language requirement has not been satisfied by the time of admission, the student will be required to remove this deficiency by the end of the second term at SIS. In addition, all information science students are required to complete LING 1950 Introduction to Linguistics or PHIL 0500 Introduction to Logic with a letter grade of C or better.

Quantitative Requirements

All information science students must complete one of the following mathematics courses with a letter grade of C or better:

- MATH 0120 Business Calculus
- MATH 0220 Analytical Geometry and Calculus 1
- MATH 0400 Discrete Mathematical Structures
- In addition, a statistics course must be completed with a letter grade of C or better.

General Distribution of Studies Requirement

All students are required to complete 9 credits in each of the three traditional divisions of CAS: the humanities,the natural sciences, and the social sciences. A copy of the information science-approved list of courses may be obtained from the SIS director of the undergraduate program:

Literature: A minimum of one literature course selected from the information science-approved list and completed with a letter grade of C or better.

Music and Art: A minimum of one course selected from the information science-approved list and completed with a letter grade of C or better.

Communication: A minimum of one of the following communication courses with a letter grade of C or better:

COMMRC	0300	Communication Process
COMMRC	0520	Public Speaking

Social Science: A minimum of two courses from two different fields selected from the information science-approved list must be completed with a letter grade of C or better.

History and Culture: A minimum of one course from the information science-approved list must be completed with a letter grade of C or better.

Psychology: All information science students must complete one of the following courses with a letter grade of C or better:

PSY 0010	Introduction to Psychology
PSY 0012	Foundation of Psychology
PSY 0015	Intro to Psychology as a Natural Science

Natural Science: Students must complete a two-course sequence in biological sciences, chemistry, geology and planetary science, or physics and astronomy, selected from the information science-approved list. In addition, one course in a field different from the two-course sequence will be required. All courses must be completed with a letter grade of C or better.

Information Science Programming
Prerequisite for Admissions
(one course; 3 credits)

INFSCI 0012	Introduction to Programming for Information Science Students

CS 0401	Intro to Computer Science
CS 0132	Programming in C and Guide to the Unix Operating System

Information Science Course Requirements

INTRODUCTION (one course; 3 credits)

0010 Introduction to Information Science

PROGRAMMING (two courses; 6 credits)

0015 Data Structures and Programming Techniques
0018 File Processing
0020 Programming Design and Software Tools

SYSTEMS (two courses; 6 credits)

1004 Telecommunications
1022 Database Management Systems
1024 Info Systems Analysis Design

HUMAN (two courses; 6 credits)

1044 Human Factors in System Design
1042 Human Information Processing
1052 Human/Computer Interaction

ELECTIVES (three courses; 9 credits)

1012 LISP and Symbolic Programming
1014 Graphics
1016 Design of Operating Systems
1018 Design of Computer Languages
1030 Information Storage and Retrieval
1054 Artificial Intelligence
1062 Mathematical Communication Theory
1066 Internet Construction
1068 Geographic Information Systems
1080 Independent Study
1085 Internship

School of Information Sciences Course Offerings

The following courses are offered by the School of Information Sciences:

INFSCI	0010	Introduction to Information Science
INFSCI	0012	Introduction to Programming for Information Science Students
INFSCI	0015	Data Structures and Programming Techniques
INFSCI	0018	File Processing
INFSCI	0020	Programming Design and Software Tools
INFSCI	1002	Architecture and Assembly Language
INFSCI	1004	Telecommunications
INFSCI	1012	LISP and Symbolic Programming
INFSCI	1014	Graphics
INFSCI	1016	Design of Operating Systems
INFSCI	1018	Design of Computer Languages
INFSCI	1022	Database Management Systems
INFSCI	1024	Information Systems Analysis and Design
INFSCI	1030	Information Storage and Retrieval
INFSCI	1042	Human Information Processing
INFSCI	1044	Human Factors in System Design
INFSCI	1052	Human Computer Interaction
INFSCI	1054	Artificial Intelligence
INFSCI	1062	Mathmaticle Communication Theory
INFSCI	1066	Internet Construction
INFSCI	1068	Geographic Information Systems
INFSCI	1080	Independent Study
INFSCI	1085	Internship
INFSCI	1090	Special Topics: Programming
INFSCI	1091	Special Topics: Behavioral
INFSCI	1092	Special Topics: Systems

■ SCHOOL OF NURSING

The School of Nursing, as an integral part of the University of Pittsburgh, subscribes to the University's commitment to teaching, research, and service. Through these major functions, the school strives to have a positive impact on the quality of health care for all people.

The school offers undergraduate, master's, and doctor of philosophy programs that anticipate and reflect healthcare needs locally, nationally, and internationally. It prepares graduates to function effectively in multifaceted roles in a variety of settings to promote the health and well-being of people. It strives to instill a spirit of inquiry, encourage academic excellence, and foster lifelong learning in all students. The school seeks to enroll highly qualified students who represent racial, cultural, and geographic diversity and to prepare students for employment in a multicultural society. In keeping with the University's emphasis on excellence in undergraduate education, the school is committed to providing an undergraduate program with a strong clinical focus that builds upon a background in the liberal arts and sciences and provides the foundation for its graduates to become outstanding clinicians.

The knowledge, skill, teaching effectiveness, and diversity of the faculty are important factors in the success of our graduates. The school is committed to fostering excellence in teaching through the faculty's clinical expertise and practice, instructional competency, and development of state-of-the-art knowledge through research. Up-to-date technology is used to enhance student access and learning when feasible and appropriate.

The school supports an environment conducive to research, encourages interdisciplinary collaboration, and seeks to make research an integral part of the learning environment. The success of the school's research agenda will determine its national recognition and realm of influence.

The school believes that faculty and students should engage in public, professional, and community services as a way for them to share their knowledge, positively influence patient care delivery, and enhance their own and their peers' professional growth. Such involvement provides leadership for societal change, helps develop effective healthcare policies, and betters health care for all people. Service is reflected in leadership and volunteer responsibilities related to the political process, professional organizations, and community service agencies.

Nursing Living Learning Center (NLLC)

The NLLC, combined with the School of Nursing's commitment to giving a small campus experience at a large institution, will provide students with a well-rounded approach to their studies as well as University life. This learning community is situated in Lothrop Hall, conveniently located adjacent to the Victoria Building, which houses the School of Nursing. The resident assistant on the floor is an upper class nursing student and works closely with the faculty and staff in the School of Nursing. First-year students will be in the classrooms together studying the basic sciences required in the School of Nursing. Various activities such as study group sessions, nursing presentations, and social gatherings will be scheduled in the NLLC.

Contact Information

University of Pittsburgh
School of Nursing
Student Services Office
239 Victoria Hall
Pittsburgh, PA 15261
412-624-4586 or 1-888-747-0794
nursao50@pitt.edu
www.nursing.pitt.edu

Admission Requirements

The School of Nursing admits applicants to the regular baccalaureate program who are one of the following:

- High school graduates
- Students transferring from the regional campuses and other schools of the University of Pittsburgh
- Students transferring from other colleges and universities

All students wishing to obtain a Bachelor of Science in Nursing degree must apply and be accepted into the School of Nursing. Admission to other University schools or to regional campuses does not guarantee admission to the School of Nursing. The Board of Nursing may prohibit a person convicted of any felonious act from licensure as a registered nurse (RN) in various states. Prospective students in that situation should call the Board of Nursing in the state where they plan to practice. (See sections five and six of the Pennsylvania Professional Nursing Law for more information.)

Registered nurses interested in pursuing a bachelor's degree or a combined bachelor's and master's degree in nursing should apply directly to the School of Nursing for admission into the RN Options Program. For details, see RN Options Applicants or call 412-624-4586 for more information.

High School Graduates

All applicants should obtain application forms and materials from the Office of Admissions and Financial Aid (see Pittsburgh Campus Freshman Admissions). Visit the School of Nursing's Web site, www.nursing.pitt.edu, for specific information about the program.

All high school applicants must meet the requirements for admission to the University of Pittsburgh as well as those specifically for the School of Nursing. High school courses required of all applicants are

Course	Units*
English	4
Algebra	1
Plane Geometry or Algebra 2	1
Additional Math	1
Social Studies	3
Science with a related laboratory or the equivalent (one unit must be in chemistry)	2
Additional Science (no laboratory required)	1
Academic Electives**	5
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* A unit is allowed for the successful completion of one year of work in an accepted course.

** Two units of foreign language as an elective are highly recommended.

Each high school applicant is required to submit results of either the SAT or the ACT. The faculty may prescribe the right to require such additional information, examinations, or measures for determining eligibility as the School of Nursing requires.

Students Transferring from within the University

Students who wish to transfer from schools within the University (College of Arts and Sciences, College of General Studies, and regional campuses) to the undergraduate program in the School of Nursing must consult with their advisor in order to officially initiate the transfer process. All records, including fall term grades, must be received in the School of Nursing's Student Services Office by the date designated on the Nursing Web site (www.nursing.pitt.edu) in order for students to be considered for admission for the fall term. The School of Nursing makes transfer decisions on a competitive basis. A student must have a cumulative QPA of 3.0 and B grades or better in science classes to be considered for transfer.

Students Transferring from Other Universities or Colleges

Applicants who have completed at least 12 credits or one full-time term of study at any institution of higher education other than the University of Pittsburgh will be considered for transfer into the School of Nursing on a competitive basis. Prospective transfer students are required to complete a Transfer Application and submit all necessary supporting materials to the Office of Admissions and Financial Aid by the date designated on the Nursing Web site (www.nursing.pitt.edu) (see Transfer Student Admissions for more information).

Admission to the School of Nursing is contingent upon vacancies in the class. It is suggested that transfer applicants have a minimum QPA of 3.00 and B grades or better in sciences classes, however, exceptions are considered upon request. Applicants who have completed fewer than 24 college credits will be evaluated on their academic performance in both high school and a college or university.

Applicants who have completed 24 or more college credits will be evaluated primarily on their academic performance in a college or university. The following points govern the allowable advanced-standing credits:

- Official transcripts of courses taken at other accredited universities or colleges must be presented.
- Course descriptions for each course must be presented to be considered for advanced-standing credits.
- Course content must be comparable to that offered at the University of Pittsburgh.
- Credits for nursing courses must have been earned in a National League for Nursing (NLN)-accredited program of nursing in order to be transferable.
- The credit transferred for any course can be no greater than the credit given at the University of Pittsburgh.
- Only courses with letter grades of C or better are transferable.
- Credit for service, correspondence, or extension courses are not transferable.
- Courses must have been taken within the past eight years (except for some designated liberal arts courses). The associate dean for academic affairs (or designee) must approve any exception to the eight-year guideline.

Re-admission

A student who has not been in attendance in the school for more than one year will be required to seek readmission through the School of Nursing. A student who has attended another school while not attending the University of Pittsburgh is required to re-apply through the University Office of Admissions and Financial Aid. Readmission will be contingent upon a vacancy in the class to which the student is to be readmitted. The program of studies will be based on courses completed, current curriculum, and placement considerations.

Admission of Students from Other Countries

International applicants should obtain the International Student Undergraduate Application from the Office of International Services (see International Student Admissions for more information).

Applicants are required to submit official, original academic credentials. Official, original academic credentials that are submitted in a language other than English must be accompanied by a certified English translation. The application process should be started nine to 12 months in advance of the intended enrollment date.

An applicant whose native language is not English must take the Test of English as a Foreign Language (TOEFL) and submit official test results. Applicants must have a level of English proficiency reflected by a score of at least 213 or greater (computer-based test) or 550 or greater (paper-based test). Applicants seeking fall term admission must take the TOEFL no later than the preceding March. See the International Student Admissions section of this bulletin for more information on the TOEFL.

RN Options Applicants

Registered nurses who wish to earn a Bachelor of Science in Nursing may apply directly to the School of Nursing to be admitted to the RN Options Program. Admission to the RN-BSN program is contingent upon the applicant meeting the following requirements:

- An associate's degree or a diploma program transcript, including an official transcript from the college or university where courses were taken during the diploma program
- A current Pennsylvania RN license
- A resume or work history
- A personal essay indicating professional goals
- All college or university transcripts showing a minimum grade point average of 3.00 in the following 50 prerequisite credits taken at either the University of Pittsburgh or at another accredited college or university. Applicants whose QPA is between 2.50 and 2.90 may be admitted on provisional status:

Chemistry	4 credits
Anatomy and Physiology	6 credits
Microbiology	3 credits
Psychology	3 credits
Human Development	3 credits
English (Writing/Composition)	3 credits
Sociology	3 credits
Electives	25 credits

Eighteen of the elective credits must be in academic courses. Seven credits are "free" electives from any college-level courses. RN-MSN applicants are required to take an approved statistics course. RN-MSN applicants are required to have a QPA of 3.0 or higher in prerequisite course work and submit three letters of recommendation. Some programs may require the Graduate Record Examination (GRE) or Miller Analogies Test (MAT) for admission. (See www.nursing.pitt.edu for current information.)

The School of Nursing has adopted the Pennsylvania Articulation Agreement. Students who have an RN license and meet one of the following criteria will be awarded 40 credits advanced standing for basic nursing education and will not be required to take the Excelsior Challenge Examination:

- Graduation from an NLN-accredited program within three years prior to consideration for admission to the RN Options Program.
- Graduation from an NLN-accredited program within 10 years and at least 1,000 hours nursing practice within three years prior to consideration for admission to the RN Options Program.

Students who do not meet either of the above conditions must successfully complete the following Excelsior Challenge Examinations prior to consideration for admission to the RN Options Program:

NURS #403 Fundamentals of Nursing
NURS #554 Adult Nursing

NURS #457 Maternal/Child Nursing
NURS #503 Psychiatric-Mental Health Nursing

Send for applications at the following address:

Excelsior College Examinations
7 Columbia Circle
Albany, NY 12203-5159
1-888-647-2388
www.excelsior.edu

Academic Standards

Students have the obligation to exhibit honesty and to respect the ethical standards of the nursing profession in carrying out their academic assignments. The academic standards of the school are as follows:

- A student may be placed on probation or dismissed for illegal or unethical professional conduct.
- Students must maintain a cumulative QPA of 2.00 or better throughout the program.
- Students must fulfill the requirements for the baccalaureate degree within a period of eight years.

Students should view the School of Nursing Web site's Student Services Web page (www.pitt.edu/~sal49/policies.html) for the most current policies.

Advising

The advising process for undergraduate students is initiated with summer advising sessions where individualized plans of study are developed. All students meet individually with the director of undergraduate student services or designated undergraduate faculty.

The RN Options Program coordinator, RN Options Program faculty, and a student services specialist advise all RN Options Program students.

Preclinical Requisites

Before beginning their clinical experience, students in the nursing program must have satisfied the following requirements:

- Cardiopulmonary resuscitation (CPR) certification
- Liability insurance
- Health insurance
- ACT 33/34 clearances (child abuse/criminal record check)

It is mandatory that all students carry their own health insurance.

Each term, students must have validated that their health insurance will cover payment of treatment and follow-up procedures.

Degree Requirements

To earn the degree of Bachelor of Science in Nursing, the student must demonstrate satisfactory academic achievement in required course work prescribed by the curriculum with an overall academic achievement of a minimum QPA of 2.00. All students enrolled in the prelicensure program will be required to successfully complete and pass standardized tests throughout the curriculum in order to progress in and graduate from the program. (Refer to curriculum design at www.nursing.pitt.edu for specific degree requirements.)

Special Academic Opportunities/Programs

Students in the nursing program begin their clinical experience during the first semester of the sophomore year and continue to have complex, rigorous, and unique experiences throughout the junior and senior years. The culmination occurs during the senior year when students identify the area of nursing that interests them the most and then complete a 336-hour internship under the direction of a nurse preceptor.

Many opportunities are available for nursing students and include independent study with advanced practice nurses and/or nurse researchers, summer internships in various parts of the country, research projects, and volunteer activities through the University of Pittsburgh Medical Center (UPMC). All students are members of the Nursing Student Association (NSA) and participate in local, state, and national activities. Such programs as tutoring groups and special instruction sessions for chemistry, microbiology, anatomy, and physiology are available for all nursing students.

Program Description

Upon completion of the undergraduate program, nursing students receive a Bachelor of Science in Nursing, which is considered their first professional degree. Students should see their academic advisor for independent study or areas of concentration.

Regular Baccalaureate Program Curriculum

The curriculum for the undergraduate program in nursing for those students who are not already registered nurses is as follows (subject to change):

FALL TERM—Freshman Year			CREDITS
CHEM	0910	Chemistry	4
NUR	0012	Human Anatomy and Physiology 1	3
NUR	0002	Nursing Anatomy and Physiology Lab 1	1
		English Composition	3
		+Psychology	3
		Art, Music, Creative Expression, or Literature	3
NUR	0001	Freshmen Seminar—Nursing Students	0
			17

SPRING TERM—Freshman Year			CREDITS
DSMIC	0031	Microbiology	3
NUR	0013	Human Anatomy and Physiology 2	3

NUR	0003	Nursing Anatomy and Physiology Lab 2	1
PSYED	0005	Life Span Development	3
NUR	0051	Introduction to Professional Nursing	3
		Sociology	3
			16

FALL TERM—Sophomore Year			**CREDITS**
NUR	0020	Pathophysiologic Foundations of Nursing Care	4
NUR	1110	Pharmacology and Therapeutics	3
NUR	0080	Foundations of Nursing Practice 1	5
NUR	1056	*Clinical Informatics	2
NUR	0066	++*Nutrition for Clinical Practice	3
			17

SPRING TERM—Sophomore Year			**CREDITS**
NUR	0081	Foundations of Nursing Practice 2	2
NUR	0082	Nursing Management of Adult with Acute/Chronic Illness	7
NUR	1680	Introduction to Genetics and Molecular Therapeutics	3
		Anthropology/Culture: American or Foreign	3
*Statistics			3
			18

FALL TERM—Junior Year			**CREDITS**
NUR	1050	***Nursing Care of Mothers, Newborns, and Families	5
NUR	1052	***Nursing Care of Children and Families	5
NUR	0067	Introduction to Nursing Research	3
NUR	1054	**Gerontological Nursing	3
			16

SPRING TERM—Junior Year			**CREDITS**
NUR	1120	***Advanced Nursing Management of Adults with Acute/Complex Health Problems	5
NUR	1060	***Nursing Care of Clients with Psychiatric/Mental Health	5
NUR	1085	Ethics in Nursing and Health	3
		Speech	3
			16

FALL TERM—Senior Year			**CREDITS**
NUR	1128	****Community Health/Nursing Theory and Practicum	5
NUR	1121	****Advanced Clinical Problem Solving	5
		****Senior Special Topics	
Elective			2–3
			12–13

SPRING TERM—Senior Year			**CREDITS**
NUR	1133	****Transition into Professional Nursing Practice	9
		Elective	3
			12

TOTAL CREDITS:	**124–125**

+ Must be taken prior to NUR 1060
++ Must be taken prior to NUR 1054
* Placement varies in the sophomore year
** Placement spring sophomore or fall junior year
*** Placement varies in junior year
**** Placement varies in senior year

RN-BSN Curriculum

Students in the RN Options Program may take courses on a full- or part-time basis. The following is a sample RN-BSN curriculum (which is subject to change):

FALL TERM			**CREDITS**
NUR	1070	Introduction to Nursing Science	2
NUR	1072	Health Promotion/Health Assessment	3
NUR	1128	Community Health Nursing	3/5
NUR	0067	Introduction to Research in Nursing	3
NUR	1056	Nursing Informatics	2
			13–15

SPRING TERM			**CREDITS**
NUR	1074	Advanced Clinical Practicum	4
NUR	1130	Leadership in Professional Nursing Practice	3
NUR	1085	Ethics in Nursing and Health	3
NUR	1610	Applied Pathophysiology in Clinical Practice	3
Elective			3
			16

TOTAL:	**29–31**

Total credit hours for BSN: 120, at least 30 credits earned at the University of Pittsburgh.

School of Nursing Course Offerings

The following courses are offered by the School of Nursing:

NUR	0001	Freshman Seminar—Nursing Students
NUR	0002	Nursing Anatomy and Physiology Lab 1
NUR	0003	Nursing Anatomy and Physiology Lab 2
NUR	0012	Human Anatomy and Physiology 1
NUR	0013	Human Anatomy and Physiology 2
NUR	0020	Pathophysiologic Foundations of Nursing Care
NUR	0051	Introduction to Professional Nursing
NUR	0066	Nutrition for Clinical Practice
NUR	0067	Introduction to Nursing Research
NUR	0080	Foundations of Nursing Practice 1
NUR	0081	Foundations of Nursing Practice 2
NUR	0082	Nursing Management of Adults with Acute/Chronic Illness
NUR	0155	Contemporary Issues in Cross-Cultural Health Care
NUR	1046	Student Nurse Intern Program
NUR	1050	Nursing Care of Mothers, Newborns, and Families
NUR	1052	Nursing Care of Children and Families
NUR	1054	Gerontological Nursing
NUR	1056	Clinical Informatics
NUR	1060	Nursing Care of Clients with Psychiatric/Mental Health Problems
NUR	1061	Independent Study
NUR	1067	Enhanced Communication in Professional Nursing
NUR	1070	Introduction to Nursing Science
NUR	1072	Health Promotion/Health Assessment
NUR	1074	Advanced Clinical Practicum
NUR	1077	School Nurse Role
NUR	1078	School Nurse Practicum
NUR	1085	Ethics in Nursing and Health
NUR	1110	Pharmacology and Therapeutics
NUR	1120	Nursing Management of Adults with Acute/Complex Health Problems
NUR	1121	Advanced Clinical Problem Solving
NUR	1127	Community Health/Nursing Theory
NUR	1128	Community Health/Nursing Theory and Practicum
NUR	1129	Community Health/Nursing Practicum
NUR	1130	Leadership in Professional Nursing Practice
NUR	1133	Transition into Professional Nursing Practice
NUR	1610	Applied Pathophysiology in Clinical Practice
NUR	1620	MindBody Interventions
NUR	1630	Healthcare Delivery in England
NUR	1640	Leadership in Military Nursing
NUR	1680	Introduction to Genetics and Molecular Therapeutics
NUR	1690	Exploring Cancer Care
NUR	1710	Applied Adult CP Critical Care
NUR	1720	Topics in Obstetrical Nursing
NUR	1750	Practical Issues in Disability
NUR	1760	Nursing Care of Children in Disasters and Public Health Emergencies
NUR	1770	Nursing Care of Adults Experiencing Cardiac Dysrhythmias
NUR	1800	Coordinating Clinical Trials
NUR	1810	Case Management
NUR	1820	Introduction to Legal Nurse Consulting and Forensic Nursing
NUR	1821	Advanced Practice in Forensic Nursing
NUR	1822	Forensic Nursing Specialty Seminar and Practicum
NUR	1823	Forensic Psychiatric Mental Health Nursing and Correctional Nursing
NUR	1829	Contemporary Issues in Cross-Cultural Health Care

■ SCHOOL OF PHARMACY

Founded in 1878, the School of Pharmacy is the oldest of the University's schools of the health professions. Since its inception, the School of Pharmacy has been at the forefront of changes in pharmacy education. Today, the school offers a Doctor of Pharmacy (PharmD) degree, a six-year program configured in a course of study requiring two years (62 credits) of preprofessional courses taken during the freshman and sophomore years followed by four years in the School of Pharmacy's professional program.

The professional curriculum emphasizes problem solving and critical thinking, blending classroom and laboratory learning with clinical practice experiences. As students progress through the curriculum, they develop the knowledge, skills, and attitudes required to deliver pharmaceutical care to their patients.

Students who enroll in the school's graduate program may earn a Master of Science or PhD degree. The graduate program provides education and training in the design and implementation of basic and clinical studies related to the discovery, development, and clinical use of drugs. Students who have earned a professional pharmacy degree and wish to pursue a career in clinical research may enroll in an intensive clinical scientist training program.

The school is dedicated to maximizing human health and well-being by preparing pharmacists to be lifelong learners, by providing pharmaceutical care, by developing innovative practice models, and by advancing science through cutting-edge research.

Contact Information

University of Pittsburgh
School of Pharmacy
1104 Salk Hall
Pittsburgh, PA 15261
412-648-8579
rxschool@pitt.edu
www.pharmacy.pitt.edu

Admissions

The School of Pharmacy admits students to its programs under one of two statuses—conditional or open. Those two admission statuses are detailed below:

Conditional Admission

Conditional status is offered only to students who enroll at one of the University of Pittsburgh campuses. High school students who meet the following criteria are eligible for this type of admission:

- A ranking in the upper 10 percent of their graduating class, and
- A score of 1200 or higher on the Scholastic Achievement Test I (SAT I) with a minimum of 550 in the math section.

Students should first submit an application to the Office of Admissions and Financial Aid, indicating an interest in studying pharmacy.

Beginning in September, the applications of students who meet these criteria will be reviewed, and offers of conditional admission will be extended to qualified students on a rolling basis as applications are received. Since only one half of the 90 spaces in the pharmacy class will be allocated for this type of admission, the number of offers will be limited, and once the allotted slots are filled, no more offers will be extended. Students interested in taking advantage of this type of admission are urged to apply early as these spaces are typically filled before November 1.

Conditional status students are expected to perform well in their preprofessional courses at the University. In order to guarantee a place in the School of Pharmacy, these students must earn an overall GPA of 3.00 or greater and a 3.00 QPA in the required math and science courses without repeating any courses or earning any grade below a C. Students who meet these performance criteria will be admitted provided that they complete the other requirements for admission to the school as described in the *University of Pittsburgh Graduate and Professional Bulletin*.

Open Admission

Qualified University of Pittsburgh students and students attending other universities are encouraged to apply to the School of Pharmacy. The minimum requirements for admission to the School of Pharmacy's professional program are

1. completion of the 62 credits of preprofessional course requirements at an accredited college or university,
2. QPA of 2.75, with no grade below C in a required course, and
3. completion of a Supplemental School of Pharmacy application, which includes three letters of recommendation and a personal essay.

In previous years, approximately 10 to 20 percent of the class was composed of students who completed their preprofessional courses at other colleges.

Students applying for admission must apply through PharmCAS, the Web-based Pharmacy College Application Service. More information about PharmCAS and deadlines for application can be found at www.pharmcas.org. Conditionally accepted students will not be required to use PharmCAS.

All students interested in applying to the pharmacy program should also consult the Application for Admission section of this bulletin and the *Graduate and Professional Bulletin*.

■ SCHOOL OF SOCIAL WORK

The School of Social Work, successor to the Division of Social Work in the Department of Sociology of the University, was founded in September 1938.

The mission of the School of Social Work is to advance knowledge and to apply that knowledge for the fulfillment of human potential through the prevention and amelioration of social problems. The school is committed to promoting the values of social and economic justice. Recognizing the complexities of contemporary society, the school dedicates itself through its educational, research, and public service activities to advocating for a society that respects the dignity and achievement of all individuals, families, and communities.

In furtherance of its mission, the goals of the School of Social Work are to

1. Educate professional social workers with the knowledge, skills, and values needed to engage in culturally competent practice with diverse populations and communities; to critically analyze personal, familial, and environmental factors affecting practice settings and practice techniques; and to advocate for those who confront barriers to maximizing the achievement of their fullest potential.
2. Engage in scholarly activities that contribute to professional knowledge about complex social problems and innovative approaches to ameliorate those problems.
3. Provide service to local, national, and international communities through the development of and participation in collaborations with social agencies, community-based organizations, government, and foundations.

The school offers a full continuum of social work educational programs at the undergraduate, master's, and doctoral levels (as well as a continuing education program for practicing social workers). The social worker with a bachelor's degree is trained to provide direct services to various populations who seek help from a variety of public and private social agencies and institutions. The school endeavors to individualize programs so that students may achieve their fullest potential for professional practice.

The school's bachelor's and master's programs in social work are accredited by the Council on Social Work Education, and graduates are eligible for full membership in the National Association of Social Workers.

The Bachelor of Arts in Social Work (BASW) program goals are:

- The undergraduate social work program prepares graduates to engage in entry-level generalist social work practice with individuals, families, groups, communities and organizations within a multicultural society.
- The undergraduate social work program socializes students to the values and ethics of the social work profession.
- The undergraduate social work program prepares students with the knowledge, skills and commitment to address oppression and social injustices in all forms.
- The undergraduate social work program prepares students for continuing formal education in either graduate social work education or other graduate disciplines.
- The undergraduate social work program provides students the opportunity to begin and continue the life-long process of critical thinking and development of self as participating members of society.

The BASW educational objectives are for students to

- Understand and engage in generalist social work practice that upholds professional standards, values and ethics;
- Demonstrate knowledge of the problem solving approach, including engagement, data collection, assessment, intervention, evaluation and termination leading to effective interventions with systems of varying sizes;
- Engage in culturally sensitive generalist practice with diverse and oppressed populations;
- Demonstrate knowledge and skills to critically analyze theories of human behavior, including the ability to identify and assess interactions of people within their social environments;
- Use a bio-psycho-social-spiritual theoretical framework to understand individual development and behavior across the life span and the interactions among individuals and families, groups, organizations, and communities;
- Develop practice techniques to help client/consumers to increase their abilities to problem solve, cope, and network;
- Demonstrate the ability to link and assist clients/consumers with resources, services, and opportunities;
- Demonstrate knowledge about and the skills to critically analyze the historical evolution of social welfare and social work as a profession, including alternative models of social welfare that have evolved in different ethnic, racial, and cultural communities;
- Evidence the ability to describe, assess, and critically analyze social policies and the impact of social welfare policy on client/consumer systems as well as different population groups;
- Develop a professional commitment to and skill in advocacy to create and promote responsible and effective services and resources that promote social and economic justice;
- Evaluate and apply research methods, research findings, and related tools to evaluate practice interventions;
- Demonstrate an understanding of and ability to use information technologies for social work practice;
- Evidence proficiency in verbal and written communication relevant to beginning generalist practice; and
- Demonstrate commitment to ongoing professional growth and development.

Contact Information

University of Pittsburgh
School of Social Work Office of Admissions
Room 2108 Cathedral of Learning
Pittsburgh, PA 15260
412-624-6348
Fax: 412-624-6323
elhattab@pitt.edu
www.pitt.edu/~pittssw

Special Opportunities

The Child Welfare Education for Baccalaureates Program provides an educational opportunity for students interested in public child welfare services. Qualified students who are enrolled as social work majors may receive substantial financial support in return for a contractual obligation to accept employment in a Pennsylvania public child welfare agency following completion of their social work degree. Students interested in the program should contact Dr. Lynn Adkins, CWEB coordinator, School of Social Work, at lfadkins@pitt.edu or 412-624-2830.

Admission Requirements

For admission to the Bachelor of Arts in Social Work program (BASW), a student must meet the following requirements:

- Completion of 60 transferable credits from an accredited undergraduate institution and/or completion of an accredited associate degree program.
- A minimum of 2.50 QPA on a 4.00 scale. Applicants with a QPA below 2.5 may be considered for provisional status

The distribution of liberal arts credits should be as follows:

a. Humanities—9 credits
b. Natural Sciences—9 credits
c. Social Sciences—9 credits
d. Other courses (preferably a computer skills course and courses in the humanities and behavioral and social sciences)—33 credits

Credits awarded from the College Level Examination Program [CLEP] by the College of General Studies are counted toward the 60 credits. Academic and field education credits are not granted in the BASW program for life, volunteer, or employment experience.

Application Procedures

Students may only apply for the fall term. Students currently enrolled within the University of Pittsburgh system should submit applications and all credentials to the School of Social Work Office of Admissions. Students applying from outside the University of Pittsburgh should send all application materials and credentials directly to the University Office of Admissions and Financial Aid (see Pittsburgh Campus Freshman Admissions for address). The application form and all application materials and credentials listed below must be received by May 31:

- The application fee of $35 (only if applying from another institution; current University of Pittsburgh students do not have to pay this fee).
- A complete transcript from the registrar of each college attended. If course work is still in progress at the time the application is filed, the student should request a supplemental transcript at the end of each term. Although a decision for acceptance may be made while academic work is still in progress, an up-to-date transcript must be received before the applicant can register for course work. Persons seeking a transfer to the University of Pittsburgh from another college or university must also submit a high school transcript or its equivalent.
- A three-part typewritten statement (of no more than eight pages) discussing the following concerns in depth:
  1. the influence in the student's life experience that made him/her select social work as a profession,
  2. what the student believes social work education can contribute to his/her professional competence, and
  3. what the student believes to be one of the most important contemporary social issues and why.
- The application supplement sheet, which requests information on the student's employment background, a list of the names and addresses of the people who will be completing reference forms on the applicant's behalf, and academic credit requirement questions.
- Five letters of reference. Required references include college advisors, an instructor at the college level, and the current (or last) employer/volunteer supervisor. The other references might include such persons as the leader or sponsor of an organization in which the applicant participated as a member or volunteer. Applicants should send the blank reference forms received with the application materials to each of the reference persons. The School of Social Work admissions office will periodically notify the applicant of the status of the application materials, and the applicant will be expected to follow through with each reference to ensure receipt of the letter. Reference persons should mail the completed form directly to the School of Social Work Office of Admissions.

Other Supporting Application Materials

The School of Social Work does not require the submission of scores from an examination for admission consideration. However, applicants wishing to submit such exam scores or other materials (publications, major papers, etc.) in support of their application may do so. In no instance will an applicant not submitting these be penalized in determining acceptance for the program.

Admission Interviews

Interviews may be initiated by the admissions personnel of the School of Social Work. Applicants who feel they would like to discuss special circumstances surrounding their applications are encouraged to seek admission interviews. The interview, if requested, should be scheduled after all application materials have been received. Usually, decisions on applications for admission are made without an interview.

Grading Standards Policy for the BASW Program

This policy covers the following areas in regard to grading:

Good Academic Standing

In order to remain in good academic standing and to graduate from the BASW program, all students must

- Obtain a grade of C- or better in all courses required for the major (including Practicum 1 and 2),
- Maintain a minimum 2.50 on a 4.00 scale in their social work major
- Conform to the standards of professional conduct as specified in the NASW Code of Ethics (see below), and
- Maintain a minimum cumulative QPA of 2.00 on a 4.00 scale.

Honors

The program honors those students whose academic performance (cumulative QPA) places them in the upper two percent of their graduating class. These students are considered for honors recognition at the annual Honors Convocation conducted by the University in the spring of each year.

National Association of Social Workers (NASW) Code of Ethics

Professional ethics are at the core of social work. The profession has an obligation to articulate its basic values, ethical principles, and ethical standards. The NASW Code of Ethics sets forth these values, principles, and standards to guide social workers' conduct. The code is relevant to all social workers and social work students, regardless of their professional functions, the settings in which they work, or the populations they serve. The NASW Code of Ethics serves six purposes:

1. The code identifies core values on which social work's mission is based.
2. The code summarizes broad ethical principles that reflect the profession's core values and establishes a set of specific ethical standards that should be used to guide social work practice.
3. The code is designed to help social workers identify relevant considerations when conflicting professional obligations or ethical uncertainties arise.
4. The code provides ethical standards to which the general public can hold the social work profession accountable.

5. The code socializes practitioners new to the field to social work's mission, values, ethical principles, and ethical standards.
6. The code articulates standards that the social work profession itself can use to assess whether social workers have engaged in unethical conduct. NASW has formal procedures to adjudicate ethics complaints filed against its members. In subscribing to this code, social workers are required to cooperate in its implementation, participate in NASW adjudication proceedings, and abide by any NASW disciplinary rulings or sanctions based on it.

The code offers a set of values, principles, and standards to guide decision making and conduct when ethical issues arise. It does not provide a set of rules that prescribe how social workers should act in all situations. Specific applications of the code must take into account the context in which it is being considered and the possibility of conflicts among the code's values, principles, and standards. Ethical responsibilities flow from all human relationships, from the personal and familial to the social and professional. Social work students are required to comply with the NASW Code of Ethics. Copies can be obtained from the NASW Web page at www.socialworkers.org.

Statute of Limitations

There is a seven-year limitation on the earning of the BASW degree with the seven-year period beginning from the date of entry into the program. Under the following extenuating circumstances, the advisor may recommend an extension of time to the program director and the associate dean:

- Extended illness of the student,
- Death of a close family member or extended personal emergency, or
- Academic probation in the last term of the student's program.

Undergraduate Advising

Each student will be assigned a faculty advisor at the beginning of each academic year. Juniors will generally be assigned to those faculty who teach first-term junior courses. Seniors will be assigned to the faculty instructor for the particular section of practicum seminar and lab for which they are registered. The purposes of advising are to assist the student with the academic program and to interpret the policies of the school and the goals and objectives of the profession. In addition, the advising process offers students and faculty an opportunity to discuss and share concerns and to offer suggestions for the program.

Degree Requirements

The School of Social Work requires a minimum of 120 credits for graduation. The courses listed below are required of all students working toward the Bachelor of Arts in Social Work:

- Social work courses: a total of 48 credits in the social work major:

			CREDITS
SOCWRK	1000	Introduction to Social Work*	3
SOCWRK	1005	Social Welfare 1	3
SOCWRK	1006	Social Welfare 2	3
SOCWRK	1008	Ethnicity and Social Welfare	3
SOCWRK	1010	Interventive Methods 1	3
SOCWRK	1011	Interventive Methods 2	3
SOCWRK	1012	Interventive Methods 3	3
SOCWRK	1013	Interventive Methods 4	3
SOCWRK	1015	Human Behavior and the Social Environment	3
SOCWRK	1020	Introduction to Social Work Research	3
SOCWRK	1024	Practicum Seminar and Lab 1	3
SOCWRK	1025	Practicum 1	6
SOCWRK	1026	Practicum Seminar and Lab 2	3
SOCWRK	1027	Practicum 2	6

- Social and behavioral sciences requirements: 24 credits **

	CREDITS
Anthropology	3
Economics	3
Political Science	3
Psychology	3
Sociology	3
Additional credits in one of these five areas	9

- Other course requirements: 12 credits **

	CREDITS
English Composition	3
Africana Studies	3
Statistics	3
Human Biology (or equivalent course emphasizing the biological determinants of human behavior)	3

* Course of equivalent content may have been taken at another institution.

** These courses/credits (in part or in whole) may have been taken as part of the 60 credits required for admission. Any of these courses/credits not taken prior to admission must be completed prior to graduation.

School of Social Work Course Offerings

The following courses are offered by the School of Social Work:

			CREDITS
SOCWRK	1000	Introduction to Social Work	3
SOCWRK	1005	Social Welfare 1	3
SOCWRK	1006	Social Welfare 2	3
SOCWRK	1008	Ethnicity and Social Welfare	3
SOCWRK	1010	Interventive Methods 1	3
SOCWRK	1011	Interventive Methods 2	3
SOCWRK	1012	Interventive Methods 3	3
SOCWRK	1013	Interventive Methods 4	3

SOCWRK	1015	Human Behavior and the Social Environment	3
SOCWRK	1020	Introduction to Social Work Research	3
SOCWRK	1023*	Psychodrama	3
SOCWRK	1024	Practicum Seminar and Lab 1	3
SOCWRK	1025	Practicum 1	6
SOCWRK	1026	Practicum Seminar and Lab 2	3
SOCWRK	1027	Practicum 2	6
SOCWRK	1035	Global Perspectives in Social Work	3
SOCWRK	1058	Economics and Social Work	3
SOCWRK	1059	Child and Family Advocacy	3
SOCWRK	1079	Child Welfare Services	3

*offered by the Department of Africana Studies but cross listed with the School of Social Work

■ UNIVERSITY CENTER FOR INTERNATIONAL STUDIES

The University Center for International Studies (UCIS) is the central coordinating and support mechanism for the international activities of the University of Pittsburgh. As a University-wide center, UCIS supports multidisciplinary programs of research and instruction in international and area studies, linking departments and schools of the University. It connects the University and private and public sector institutions, other universities, and institutions in other countries to strengthen the University's international dimension of teaching, research, and public service. UCIS aids students in their acquisition of international knowledge through certificate programs, study abroad programs, curriculum development, and seminars; assists faculty in their international research, teaching, and service; and develops and manages international programs and projects. The center offers undergraduate certificate programs through its four area studies centers (Asian studies, Latin American studies, Russian and East European studies, and West European studies), all of which are designated by the federal government as National Resource Centers. In addition, UCIS offers undergraduate certificates in African studies and global studies. UCIS certificates evidence language proficiency and area knowledge that students find useful for international careers or for advanced degrees with a concentration in a particular world area or global theme.

Contact Information

University of Pittsburgh
University Center for International Studies
4G Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-7390
Fax: 412-648-4672
ucis@pitt.edu
www.ucis.pitt.edu

Admission Requirements

Formal admission to the UCIS certificate programs is accomplished by completing a simple application form. Interested students are encouraged to apply in their freshman or sophomore year. There are no special requirements for admission. All undergraduate certificate programs in UCIS (with the exception of the certificate program in Latin American studies described below) require 15 credits/five courses in the applicable area, with three or more courses in at least two departments other than the major. Language requirements vary from two to six terms.

Certificate courses can be used simultaneously to fulfill the student's general education and international/foreign culture requirements. Grades must generally be C or better to be accepted for the certificate program. Upon graduation, both the academic degree and the certificate are posted on the student's transcript.

Advising

All UCIS certificate programs provide advising services to students interested or registered in its programs in addition to those routinely offered by the students' major advisors. Center advisors assist in selecting courses, language training, and arranging internships or study abroad to fit the students' academic and personal interests. See the program descriptions below for contact information.

Special Academic Opportunities

In addition to the regular certificate programs, UCIS offers the following special academic opportunities:

Asian Studies Scholarships and Fellowships

Students enrolled in the Asian studies certificate program are eligible for a variety of fellowships and scholarships, including the Chinese Summer Language Study Abroad Scholarships, the Japanese Studies Undergraduate Scholarship, the Study-in-Japan Scholarship, and the Japanese Summer Language Study Scholarship. In addition, a new undergraduate scholarship program for students studying Chinese and Japanese language has recently been initiated for study abroad in an approved program.

Latin American Studies Undergraduate Seminar/Field Trip

The Undergraduate Seminar/Field Trip is a unique component of the Latin American studies undergraduate certificate program. The Center for Latin American Studies (CLAS) firmly believes that all undergraduates should have the opportunity to experience Latin American culture firsthand. This objective is met through an annual field trip to a selected Latin American country for which about 12 students are chosen each year. CLAS subsidizes the cost of this trip via scholarships to place it within the means of virtually all students. Student participants register for a seminar in the spring term (January–April) that prepares them for the field trip through study of the culture, economics, geography, history, and politics of the area to be visited. Students also are introduced to research methodology and are guided through the development of a project which forms the basis for research they conduct while in the field. In the summer session (mid-May–late

June), the students travel to Latin America, where they reside with host families and undertake their research projects under the direction of a CLAS faculty member. (In past years, groups have gone to Argentina, Bolivia, Brazil, Colombia, Costa Rica, the Dominican Republic, Ecuador, Guatemala, Mexico, Uruguay, and Venezuela.)

Russian and East European Studies Capstone Course

The Center for Russian and East European Studies (REES) offers, through a specific department in the Faculty of Arts and Sciences, a capstone (or exit) course for juniors and seniors in its undergraduate certificate program. The capstone course is recommended but is not mandatory. It is designed to give students from a variety of academic disciplines the opportunity to investigate a common development in the region. Topics have included women writers, political and economic transition, and nationalism. The course is not restricted to REES students, and it is open to undergraduates who are knowledgeable and interested in the region. Course requirements include research paper(s), and class size is limited to 25 students.

The REES certificate requires that students enroll in courses that focus on this world region from at least three different academic departments. This capstone (or exit) course is an opportunity for students from different disciplines to take the same course, which is interdisciplinary in nature. The classes include both lectures and discussion sessions.

Russian and East European Studies Summer Study Abroad and Internship Awards

The Center for Russian and East European Studies (REES) believes that study or work abroad is a key component of its certificate program. In an effort to encourage students to travel to the region, REES offers several scholarships each summer to students enrolled in the certificate program. In addition, REES offers several awards to its students annually to fund paid internships in Pittsburgh during the academic year in the field of Russian and East European studies.

West European Studies Friedl E. Kessler Memorial Fellowship

To help defray the costs of studying abroad, the Center for West European Studies offers the Kessler Fellowship for study or research in Germany. This competitive award is offered every other year in the amount of $1,000. Any student pursuing the Certificate in West European Studies who studies German and has at least a 3.0 QPA is eligible to apply.

■ PROGRAM DESCRIPTIONS

AFRICAN STUDIES CERTIFICATE

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University Center for International Studies
African Studies Program
Joseph Adjaye, Undergraduate Advisor and Director
3T01 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-7544
Fax: 412-648-7214
jadjaye@pitt.edu
www.ucis.pitt.edu/africa

Students seeking an undergraduate degree at any school within the University may pursue an undergraduate certificate in African studies. Requirements include

- Five courses: one required core course (either AFRCNA 0027 Introduction to Africa or AFRCNA 0086 African Civilization and Culture) and four courses selected from those listed with African content and
- Language proficiency: one year of study (two terms) of an indigenous African language (Swahili, Yoruba, Arabic) or proficiency in a European language relevant to African studies as a consequence of Africa's historical experience, e.g., French, German, Italian, Portuguese, and Spanish.

ASIAN STUDIES CERTIFICATE

University of Pittsburgh
University Center for International Studies
Asian Studies Center
Dianne F. Dakis, Undergraduate Advisor
and Assistant Director for Student Affairs
5B16 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-7367
Fax: 412-624-4665
dakis@ucis.pitt.edu
www.ucis.pitt.edu/asp/cert.html

Students in any school of the University can pursue an undergraduate certificate in Asian studies as a supplement to a major. Requirements are

- Five Asian area studies courses: one course in the student's major and four courses in at least two departments other than the major (for a total of 15 credits). If the major department does not have options for an Asian focus (e.g., chemistry, English), the student must take an additional Asia-related course in a third department.
- Language proficiency: two years (four terms) of Asian language study at the college level or equivalent proficiency.

EUROPEAN UNION STUDIES CERTIFICATE

University of Pittsburgh
University Center for International Studies
Center for West European Studies/European Union Center
Stacey Beggs, Assistant Director
and Undergraduate Advisor
4E48 Wesley W. Posvar Hall
Phone: 412-624-3503

Fax: 412-648-2199
beggs@ucis.pitt.edu
www.ucis.pitt.edu/cwes

The European Union (EU) Studies Certificate is designed to provide the student with general competence in the skills, knowledge, and communicative dimensions of modern issues of European integration. The program will integrate existing courses into a coherent and vibrant learning and research environment in conjunction with practical insight into the formulation and enactment of policy. Requirements are

- PS 1317 Politics of the European Union
- One course on the historical foundation of the EU (from approved list)
- Three courses on the EU or with significant EU content (from approved list)
- The EU Studies Capstone Seminar
- Completion of the fourth semester of an official EU language (excluding English) or the national language of a candidate country. Equivalent proficiency in the language may be proved through examination.

No more than two courses from one department (excluding language courses) may count toward the certificate. For double and triple majors, only three courses from the majors may count toward the certificate.

In addition to the course requirements, students must also meet the following requirements:

1. Students must be enrolled in the certificate program for a minimum of two semesters and must attend at least two EU lectures or events per semester. Ideally, a student will enroll in the program during freshman year.
2. Every EU Studies Certificate student must participate in Model EU (held every spring) or an equivalent activity at least once before graduation. Equivalent activities may include an internship related to the European Union, attendance at a student conference with an EU theme, or participation in another EU simulation.

GLOBAL STUDIES CERTIFICATE

University of Pittsburgh
University Center for International Studies
Global Studies Program
Laura Hastings, Undergraduate Advisor
and Associate Director
4G27 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-624-2918
Fax: 412-624-4672
global@ucis.pitt.edu
www.ucis.pitt.edu/global

Students pursuing an undergraduate degree in any school within the University may seek an undergraduate certificate in global studies. Requirements are

- Five global studies courses: CAS 0150 Introduction to Global Studies, two courses in one regional concentration, and two courses in a thematic concentration, for a total of 15 credits. Three courses must be taken in at least two departments other than the student's major.
- Language proficiency: two years (four terms) of college-level language appropriate to the regional concentration selected. Equivalent proficiency in the language may be proven through examination.
- Oral presentation on a global topic

LATIN AMERICAN STUDIES RELATED CONCENTRATION AND CERTIFICATE

University of Pittsburgh
University Center for International Studies
Center for Latin American Studies
Shirley Kregar, Undergraduate Advisor
and Associate Director for Academic Affairs
4E32 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-7396
Fax: 412-648-2199
kregar@ucis.pitt.edu
www.ucis.pitt.edu/clas

Related Concentration

Students may begin their work on Latin America through the related concentration in Latin American studies. Requirements are

- Five Latin American area studies courses: one course in the student's major and four courses in at least two departments other than the major (for a total of 15 credits) and
- Language proficiency: two years (four terms) of college-level Spanish or Portuguese or the equivalent. Equivalent proficiency in the language may be proven through examination.

Students who complete these requirements receive a notation on their transcript that they have earned a related concentration in Latin American studies.

Certificate

The certificate program consists of on-campus area and language proficiency courses and a study abroad program. Requirements are

- Seminar/field trip: satisfactory completion of the interdisciplinary seminar and field trip (9 credits) or an equivalent program of academic study abroad,
- Four Latin American area studies courses: one in the student's major and three in at least two departments other than the major (12 credits), and

- Language proficiency: three years (six terms) of college-level Spanish or Portuguese or the equivalent. Equivalent proficiency may be proven through examination.

Students majoring in departments in which no Latin American courses are offered can complete the related concentration or certificate by substituting the major course with a Latin American course in any department.

RUSSIAN AND EAST EUROPEAN STUDIES CERTIFICATE

University of Pittsburgh
University Center for International Studies
Center for Russian and East European Studies
Paloma Garcia-Paredes, Undergraduate Advisor
4G19 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-7418
Fax: 412-648-7002
paloma@ucis.pitt.edu
www.ucis.pitt.edu/crees

The Russian and East European Studies Certificate combines foreign language training and multidisciplinary area studies courses. Requirements are

- Five Russian and East European area studies courses: one course in the student's major and four courses in at least two departments other than the major (15 credits),
- Language proficiency: two years of college-level study in Russian or a language of the former Soviet Union or East/Central Europe or demonstration of equivalent proficiency, and
- Maintenance of a 3.00 QPA in courses taken toward the completion of the certificate.

Students who major in departments not offering REES courses, e.g. the natural or physical sciences, are required to take five area studies courses (15 credits) in three departments.

WEST EUROPEAN STUDIES CERTIFICATE

University of Pittsburgh
University Center for International Studies
Center for West European Studies
Stacey Beggs, Undergraduate Advisor
and Assistant Director
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Phone: 412-624-3503
Fax: 412-648-2199
beggs@ucis.pitt.edu
www.ucis.pitt.edu/cwes

The West European Studies Certificate is designed to allow students to complement a major in any discipline (including the sciences) with an interdisciplinary set of courses related to Western Europe and the European Union and proficiency in a relevant language. Requirements are

- Five West European area studies courses: one course in the student's major and four courses (12 credits) in at least two departments outside the student's major department. Of these courses, one must be on 19th-century and one on 20th-century Western Europe, and two must be at the 1000 level. In addition, at least two of the five courses must be from a humanities discipline and two from a social science discipline.
- Students are encouraged to choose area studies that follow a "track" or common theme. Examples of tracks within West European studies include European Union studies, international affairs, and European contributions to the humanities. Students may also focus on a specific country.
- Language proficiency: two courses beyond the fourth-semester level in French, German, Italian, Portuguese, or Spanish OR completion of the fourth semester of one West European language and the second semester of a second West European language, as long as one or both are "less commonly taught" languages offered through the Less Commonly Taught Languages (LCTL) Center.
- For students graduating in April 2005 and beyond, study abroad in Western Europe is required. Exceptions will be considered for students with financial need or other extenuating circumstances.

■ UNIVERSITY HONORS COLLEGE

The University Honors College (UHC) promotes high attainment among able and motivated undergraduates University-wide. The college attracts outstanding faculty from throughout the University to provide a broad portfolio of academic offerings. These include courses of particular depth and challenge, concentrated academic advising, undergraduate teaching and research fellowships, a distinguished and demanding degree option, and cocurricular endeavors. Student initiative for high intellectual attainment is the main requirement for involvement in these offerings.

Contact Information

University of Pittsburgh
University Honors College
3500 Cathedral of Learning
Pittsburgh, PA 15260
412-624-6880
uhchome@pitt.edu
www.honorscollege.pitt.edu

Admission Requirements

The University's Honors College is not a membership organization and does not maintain rigid admissions requirements. Permission for involvement in UHC offerings, such as UHC courses, develops on an ongoing basis depending upon a student's prior achievement. Entering freshmen having a combined SAT I score above 1300 and ranking in the top 10 percent of their high school graduating class are automatically qualified to take any UHC course whose particular prerequisites have been satisfied. The

same is true for continuing students having a QPA of at least 3.25 (B+) in their prior term. Students who do not meet this threshold may nevertheless request permission to take a particular UHC course from a member of the UHC staff or their academic advisor.

Advising

The University Honors College provides special academic and career advising designed to complement the formal advising programs offered by schools and departments. The UHC advising staff is experienced in helping talented students combine seemingly diverse academic interests into educationally sound and appealing plans of study. This includes not only the University's full range of course, certificate, degree, and other study options, but also national scholarship and fellowship opportunities available to undergraduates. Students seeking UHC counseling are encouraged to make an appointment with a UHC advisor.

Degree Requirements

The availability of a special degree distinguishes an honors "college" from an honors "program." UHC offers qualified students a unique, competency-based undergraduate degree that is designated the Bachelor of Philosophy [in discipline] (BPhil).

There are general degree requirements and special degree requirements for the BPhil. General degree requirements include

- Proof of academic ability.
- Completion of home school degree requirements.
- Accomplishment of an approved UHC program of study. In general, the expectation of an approved program of study is that the curriculum reflects breadth across disciplines and depth within a specific discipline.

The special degree requirements for independent scholarship will typically entail the student's completing and defending a thesis during the junior/senior years under the tutelage of a faculty advisor. By the last term in residence, the student must publicly present the results of the independent scholarship to a Faculty Examination Committee selected by the faculty advisor. A faculty member from outside the University of Pittsburgh will be an invited member of the committee. Recommendation from the Faculty Examination Committee for the awarding of the degree will be made to the dean of the University Honors College who, after certifying that all aspects of the general and special requirements have been fulfilled, will make a recommendation to the Honors College Advisory Board for final UHC approval. The degree is conferred jointly by the home school and the honors college through a single Bachelor of Philosophy [in discipline] diploma.

Special Academic Opportunities

The Honors Center on the 35th and 36th floors at the top of the Cathedral of Learning is the home of the University Honors College and serves as the hub of its many curricular and cocurricular activities. There are currently three undergraduate publications supported by the honors college: The *Pittsburgh Undergraduate Review*, a professionally refereed journal of undergraduate scholarship solicited nationwide; *The Three Rivers Review*, a citywide literary journal; and *Collision*, a journal of nonfiction cosponsored with the Department of English. The Honors Center houses literary discussion groups, a weekly film series, and a weekly lecture series. Interested students are urged to visit the Honors Center, meet the UHC staff, and become acquainted with the latest roster of UHC activities.



Faculty

Faculty

FACULTY OF ARTS AND SCIENCES

MARK ABBOTT, *Assistant Professor of Geology Planetary Science*, PhD, University Minnesota

FAITH ADIELE, *Assistant Professor of English*, MFA, University of Iowa

JOSEPH E. ADJAYE, *Professor, Chair of Africana Studies*, PhD, Northwestern University

HEATHER ALLEN, *Lecturer of French and Italian Languages and Literatures*, PhD, Emory University

JAMES V. ALLEN, *Associate Professor of Philosophy*, PhD, Princeton University

KATHLEEN M.S. ALLEN, *Lecturer of Anthropology*, PhD, State University of New York at Buffalo

JOSEPH ALTER, *Associate Professor of Anthropology*, PhD, University of California at Berkeley

SHIGERU AMEMIYA, *Assistant Professor of Chemistry*, PhD, Government Medical College

AHMED AMER, *Assistant Professor of Computer Science*, PhD, University of California at Santa Cruz

BARRY AMES, *Andrew Mellon Professor of Political Science; Chair, Department of Political Science*, PhD, Stanford University

ROBERT C. ANDERSON, *Chair, Geology Planetary Science*, PhD, University of Pittsburgh

THOMAS H. ANDERSON, *Professor of Geology Planetary Science*, PhD, University of Texas at Austin

SUSAN ANDRADE, *Associate Professor of English*, PhD, University of Michigan

GEORGE REID ANDREWS, *Professor of History*, PhD, University of Wisconsin at Madison

EMMANUEL O. ANISE, *Associate Professor of Political Science, Africana Studies*, PhD, Columbia University

MIHAI ANITESCU, *Assistant Professor of Mathematics*, PhD, University of Iowa

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JOHN ARONIS, *Lecturer of Computer Science*, PhD, University of Pittsburgh

ELAYNE ARRINGTON, *Senior Lecturer of Mathematics*, PhD, University of Cincinnati

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DAVID BARKER, *Assistant Professor of Political Science*, PhD, University of Houston

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GERMAN BARRIONUEVO, *Associate Professor of Neuroscience*, MD, University of Buenos Aires, Argentina

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GAIL BENJAMIN, *Lecturer of Anthropology*, PhD, University of Minnesota

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SUSAN BERK-SELIGSON, *Associate Professor of Hispanic Languages and Literatures*, PhD, University of Arizona

MARC P. BERMANN, *Associate Professor of Anthropology*, PhD, University of Michigan

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DAVID BRODBECK, *Professor of Music*, University of Pennsylvania

JEFFREY L. BRODSKY, *Associate Professor of Biological Sciences*, PhD, Harvard University

L. KEITH BROWN, *Professor of Anthropology*, PhD, University of Chicago

CELIA A. BROWNELL, *Associate Professor of Psychology*, PhD, University of Minnesota

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KAY BRUMMOND, *Associate Professor of Chemistry*, PhD, Pennsylvania Sate University

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JOSE BRUSTOLONI, *Assistant Professor of Computer Science*, PhD, Carnegie Mellon University

JACOB BURBEA, *Professor of Mathematics*, PhD, Stanford University

ANTHONY R. CAGGIULA, *Professor of Psychology; Chair, Department of Psychology*, PhD, Princeton University

GUNDUZ R. CAGINALP, *Professor of Mathematics*, PhD, Cornell University

CARNEGIE SAMUEL CALIAN, *Adjunct Professor of Religious Studies*, DTheol, University of Basel, Switzerland

JOSEPH L. CAMP, *Professor of Philosophy*, PhD, Brown University

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MEHMET CANER, *Assistant Professor of Economics*, PhD, Brown University

ROSEMARY CAPO, *Associate Professor of Geology and Planetary Science*, PhD, University of California at Los Angeles

J. PATRICK CARD, *Associate Professor of Neuroscience*, PhD, Wayne State University

CHRISTOPHER CARMAN, *Assistant Professor of Political Science*, PhD, University Houston Central

JEAN FERGUSON CARR, *Associate Professor of English*, PhD, University of Michigan at Ann Arbor

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CAROLYN CARSON, *Lecturer of History; Coordinator, Urban Studies Program,* PhD, Carnegie Mellon University

WALTER P. CARSON, *Associate Professor of Biological Sciences*, PhD, Cornell University

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CHONG-YUN CHAO, *Professor of Mathematics*, PhD, University of Michigan

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BARUN CHATTERJEE, *Senior Lecturer of Physics and Astronomy*, PhD, University of Pittsburgh

XINFU CHEN, *Professor of Mathematics*, PhD, University of Minnesota

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DONALD M. CHIARULLI, *Professor of Computer Science*, PhD, Louisiana State University at Baton Rouge

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CARSON C. CHOW, *Associate Professor of Mathematics*, PhD, Massachusetts Institute of Technology

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CAROL COLBY, *Associate Professor of Neuroscience*, PhD, Massachusetts Institute of Technology

W. STEPHEN COLEMAN, *Associate Professor of Theatre Arts*, PhD, University of Utah

NICHOLAS J. COLES, *Associate Professor of English*, PhD, State University of New York at Buffalo

AMY COLIN, *Associate Professor of Germanic Languages and Literatures*, PhD, Yale University

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NANCY CONDEE, *Associate Professor of Slavic Languages and Literatures; Director, Cultural Studies Program*, PhD, Yale University

LYNNE CONNER, *Assistant Professor of Theatre Arts*, PhD, University of Pittsburgh

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Source: Office of the Secretary, June 2003

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■ SCHOOLS

COLLEGE OF GENERAL STUDIES

FACULTY AND COLLEGE OF ARTS AND SCIENCES

GRADUATE SCHOOL OF
PUBLIC AND INTERNATIONAL AFFAIRS

GRADUATE SCHOOL OF PUBLIC HEALTH

THE JOSEPH M. KATZ GRADUATE SCHOOL
OF BUSINESS AND THE COLLEGE
OF BUSINESS ADMINISTRATION

SCHOOL OF DENTAL MEDICINE

SCHOOL OF EDUCATION

SCHOOL OF ENGINEERING

SCHOOL OF HEALTH AND REHABILITATION
SCIENCES

SCHOOL OF INFORMATION SCIENCES

SCHOOL OF LAW

SCHOOL OF MEDICINE

SCHOOL OF NURSING

SCHOOL OF PHARMACY

SCHOOL OF SOCIAL WORK

UNIVERSITY HONORS COLLEGE

■ REGIONAL CAMPUSES

UNIVERSITY OF PITTSBURGH
AT BRADFORD

UNIVERSITY OF PITTSBURGH
AT GREENSBURG

UNIVERSITY OF PITTSBURGH
AT JOHNSTOWN

UNIVERSITY OF PITTSBURGH
AT TITUSVILLE

■ ACADEMIC CALENDAR

This academic calendar has been edited specifically for this undergraduate bulletin. The University reserves the right to make changes in the calendar as necessary. For a current, official version of the University's academic calendar, please see www.pitt.edu/calendars.html.

2003 FALL TERM (04–1)

July		
4	Friday	*Independence Day (University closed)*
9	Wednesday	Fall term deadline for continuing students to register without a penalty fee
August		
11–15, incl.	Mon.–Fri.	International student orientation
20	Wednesday	Residence halls open
21–24, incl.	Thur.–Sun.	Freshman orientation session
22	Friday	Freshman convocation
25	Monday	Fall term registration period ends for all students
25	Monday	Fall term classes begin
September		
1	Monday	*Labor Day (University closed)*
5	Friday	Fall term add/drop period ends
October		
23	Thursday	Spring term registration and add/drop can begin: First two days reserved for seniors
24	Friday	Fall term deadline for students to submit monitored withdrawal forms to dean's office
24–25, incl.	Fri.–Sat.	Homecoming activities
24–25, incl.	Fri.–Sat.	Freshman Family Weekend
29	Wednesday	Plenary session, University Senate
November		
26–30,incl.	Wed.–Sun.	*Thanksgiving recess for students (no classes), all schools*
27–28, incl.	Thur.–Fri.	Thanksgiving recess for faculty and staff *(University closed)*
December		
1	Monday	Classes resume (all schools)
5	Friday	Fall term: Last day for undergraduate day classes
5	Friday	Spring term deadline for continuing students to register without a penalty fee
6–13, incl.	Sat.–Sat.	College of General Studies classes, Saturday College classes, graduate classes, and evening classes will continue to meet during this period; final examinations should be held during the last scheduled class meeting
8–13, incl.	Mon.–Sat.	Final examination period for undergraduate day classes
13	Saturday	Fall term ends: Official date for degrees awarded in Fall term
14	Sunday	Residence halls close
14–Jan. 4, incl.	Sun.–Sun.	*Winter recess for students (no classes), all schools.*
17	Wednesday	Fall term grade rosters due in University registrar's office by noon
24–Jan. 1, incl.	Wed.–Thur.	*Winter recess for faculty and staff; designated University offices, including major responsibililty centers and research projects, will be staffed as necessary during this period*

2004 SPRING TERM (04–2)

January		
2	Friday	All University offices and buildings reopen
2	Friday	Residence halls open
5	Monday	Spring term registration period ends for all students
5	Monday	Spring term classes begin
16	Friday	Spring term add/drop period ends
19	Monday	*Dr. Martin Luther King's birthday observance (University closed)*
February		
16	Monday	Summer term registration and add/drop can begin
27	Friday	Honors Convocation
March		
5	Friday	Spring term deadline for students to submit monitored withdrawal forms to dean's office
7–14, incl.	Sun.–Sun.	*Spring recess for students (no classes); University offices and buildings remain open and staffed during spring recess except on Friday, spring holiday*
12	Friday	*University's observance of spring holiday (University closed)*
18	Thursday	Fall term registration and add/drop can begin: First two days reserved for seniors
24	Wednesday	Plenary session, University Senate
April		
16	Friday	Spring term: Last day for undergraduate day classes
17–24, incl.	Sat.–Sat.	College of General Studies classes, Saturday college classes, graduate classes, and evening classes will continue to meet during this period; final examinations should be held during the last scheduled class meeting

19–24, incl.	Mon.–Sat.	Final examination period for all undergraduate day classes
24	Saturday	Spring term ends: Official date for degrees awarded in spring term
25	Sunday	Residence halls close (except for graduating seniors)
25	Sunday	Annual Commencement Convocation
28	Wednesday	Spring term grade rosters due in University registrar's office by noon

2004 SUMMER TERM (04–3)

May

2	Sunday	Summer term: Residence halls open
3	Monday	Summer term registration period ends and classes begin
10	Monday	Summer 12-week, 6-week-1, 4-week-1 sessions registration period ends and classes begin
12	Wednesday	Summer 4-week-1 and 6-week-1 sessions add/drop period ends
14	Friday	Summer term add/drop period ends
17	Monday	Summer 12-week session add/drop period ends
26	Wednesday	Summer 4-week-1 session deadline for students to submit monitored withdrawal forms to dean's office
31	Monday	*Memorial Day (University closed)*

June

4	Friday	Summer 6-week-1 session deadline for students to submit monitored withdrawal forms to dean's office
5	Saturday	Summer 4-week-1 session ends: Final examinations scheduled during last class meeting
7	Monday	Summer 4-week-2 session registration period ends and classes begin
9	Wednesday	Summer 4-week-1 session grade rosters due in University registrar's office by noon
9	Wednesday	Summer 4-week-2 session add/drop period ends
19	Saturday	Summer 6-week-1 session ends: Final examinations scheduled during last class meeting
19	Saturday	Official date for awarding of degrees
21	Monday	Summer 6-week-2 session registration period ends and classes begin
23	Wednesday	Summer 6-week-1 session grade rosters due in University registrar's office by noon
23	Wednesday	Summer 6-week-2 session add/drop period ends
23	Wednesday	Summer 4-week-2 session deadline for students to submit monitored withdrawal forms to dean's office

July

2	Friday	Summer term and 12-week session deadline for students to submit monitored withdrawal forms to dean's office
3	Saturday	Summer 4-week-2 session ends: Final examinations scheduled during last class meeting
4–5	Sun.–Mon.	*Independence Day (University closed)*
6	Tuesday	Summer 4-week-3 session registration period ends and classes begin
7	Wednesday	Summer 4-week-2 session grade rosters due in University registrar's office by noon
7	Wednesday	Fall term deadline for continuing students to register without penalty fee
8	Thursday	Summer 4-week-3 session add/drop period ends
16	Friday	Summer 6-week-2 session deadline for students to submit monitored withdrawal forms to dean's office
22	Thursday	Summer 4-week-3 session deadline for students to submit monitored withdrawal forms to dean's office

August

2	Monday	Summer 12-week, 6-week-2, 4-week-3 sessions end: Final examinations scheduled during last class meeting
5	Thursday	Summer 12-week, 6-week-2, 4-week-3 sessions grade rosters due in University registrar's office by noon
9	Monday	Summer term ends: Final examinations scheduled during last class meeting
9	Monday	Official date for awarding degrees
10	Tuesday	Residence halls close
12	Thursday	Summer term grade rosters due in University registrar's office by noon

2004 FALL TERM (05–1)

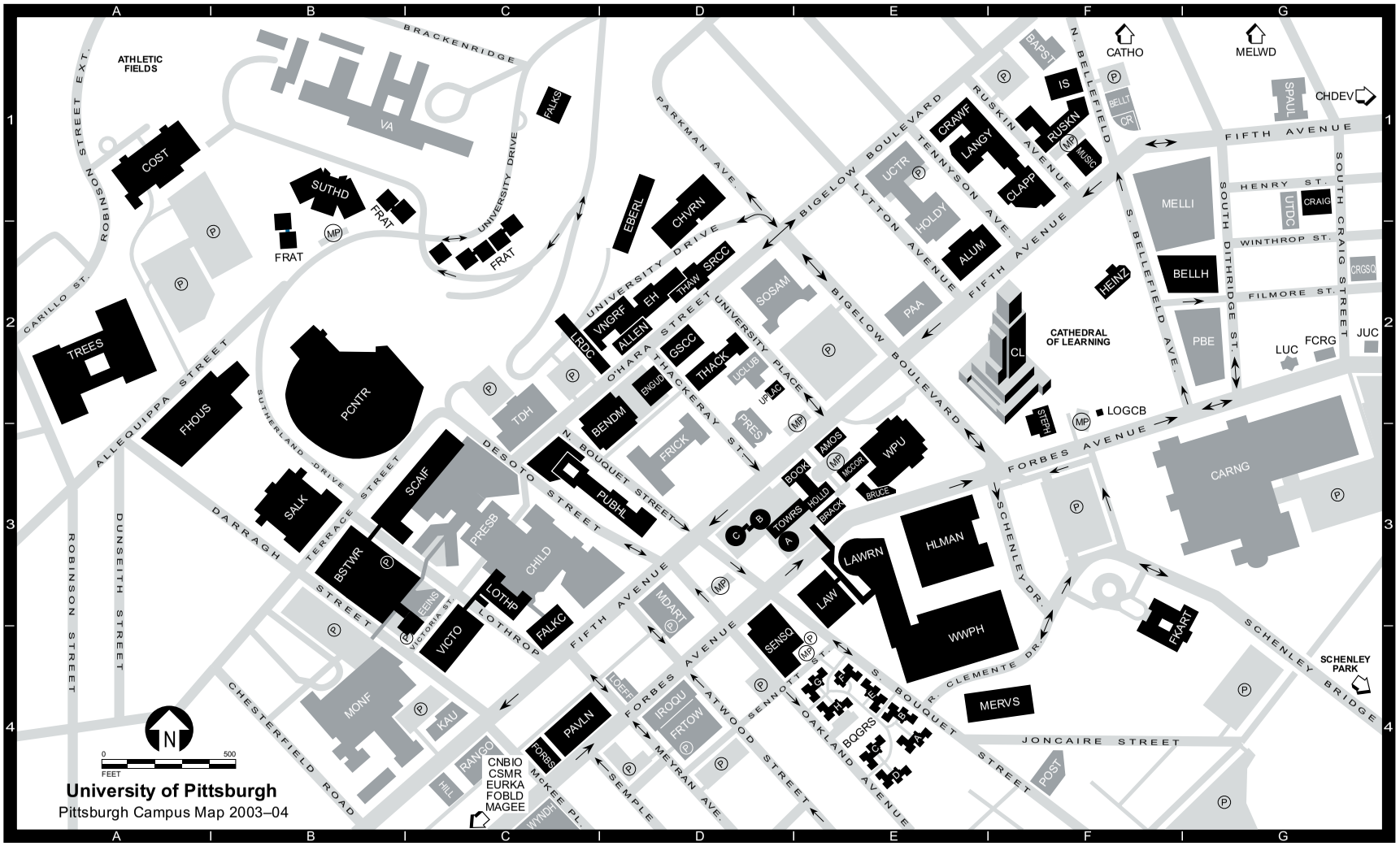
The beginning, ending, and add/drop dates for fall term 2004 classes and the beginning date for spring term 2005 classes are firm; all other dates are tentative.

August		
16–20, incl.	Mon.–Fri.	International student orientation
25	Wednesday	Residence halls open
30	Monday	Fall term registration period ends for all students
30	Monday	Fall term classes begin
September		
6	Monday	*Labor Day (University closed)*
10	Friday	Fall term add/drop period ends
October		
21	Thursday	Spring term registration and add/drop can begin: First two days reserved for seniors
29	Friday	Fall term deadline for students to submit monitored withdrawal forms to dean's office
November		
24–28	Wed.–Sun.	Thanksgiving recess for students (no classes), all schools
25–26	Thur.–Fri.	*Thanksgiving recess for faculty and staff (University closed)*
29	Monday	Classes resume (all schools)
December		
10	Friday	Fall term: Last day for undergraduate day classes
10	Friday	Spring term deadline for continuing students to register without a penalty fee
11–18	Sat.–Sat.	College of General Studies classes, Saturday college classes, graduate classes, and evening classes will continue to meet during this period; final examinations should be held during the last scheduled class meeting
13–18	Mon.–Sat.	Final examination period for undergraduate day classes
18	Saturday	Fall term ends: Official date for degrees awarded in fall term
19	Sunday	Residence halls close
19–Jan 4, incl.	Sun.–Tues.	Winter recess for students (no classes), all schools
21	Tuesday	Fall term grade rosters due in University registrar's office by noon
24–Jan 3, incl.	Fri.–Mon.	*Winter recess for faculty and staff; designated University offices, including major responsibility centers and research projects, will be staffed as necessary during this period*

2005 SPRING TERM (05–2)

January		
4	Tuesday	All University offices and buildings reopen, including residence halls
5	Wednesday	Spring term registration period ends for all students
5	Wednesday	Spring term classes begin
18	Tuesday	Spring term add/drop period ends

For calendar information for future terms, check the University academic calendar or extended calendar at www.pitt.edu/calendars.html.

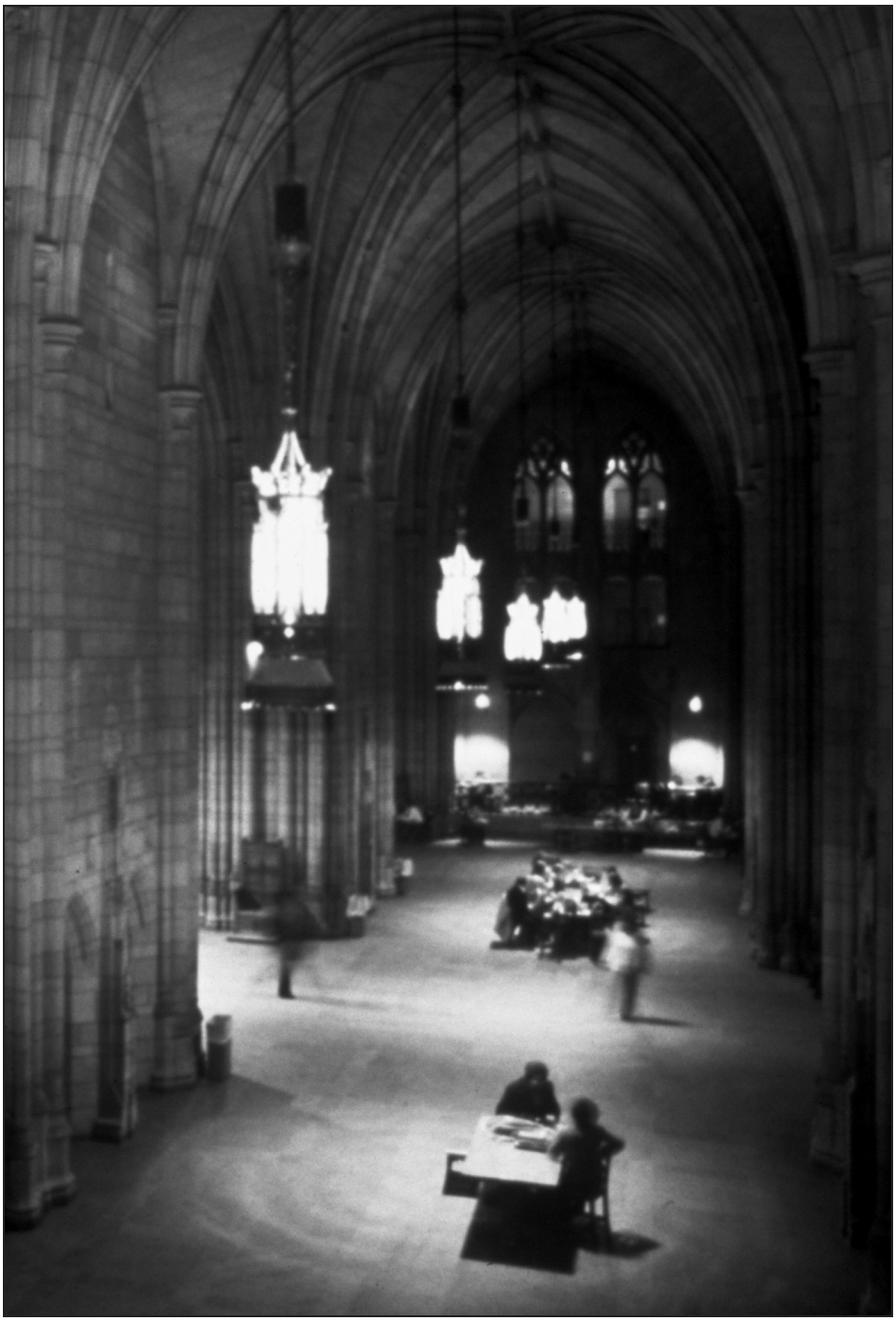


University of Pittsburgh

Pittsburgh Campus Map 2003–04

Allen Hall.....ALLEN D2
Alumni Hall.....ALUM E2
(Office of Admissions and Financial Aid, Office of Alumni Relations)
Amos Hall (residence hall).....AMOS E3
• **Barco Law Building**.....LAW E3
Bellefield Hall.....BELLH G2
Bellefield Presbyterian Church...PRES D3
Bellefield Towers.....BELLT F1
• **Benedum Hall**.....BENDM D3
Biomedical Science Tower.....BSTWR B3
The (University) Book Center....BOOK D3
Bouquet Gardens.....BQGRS E4
(residence halls A - H)
Brackenridge Hall (res. hall, ...BRACK E3
Copy Cat, The Pitt Shop, Parking Office)
Bruce Hall (residence hall).....BRUCE E3
• **Carnegie Library of Pittsburgh, Carnegie Museums of Pgh**...CARNG G3
• **Cathedral of Learning**.....CL F2
Center for Bioengineering *off map* CNBIO C4
Center for Sports Medicine.....CSMR C4
and Rehabilitation *off map*
Charles L. Cost Sports Center.....COST A1
Chevron Science Center.....CHVRN D1
Children's Hospital.....CHILD C3
Clapp Hall.....CLAPP F1
Community of Reconciliation Bldg...CR F1
Craig Hall.....CRAIG G1
Craig Square.....CRGSQ G2
Crawford Hall.....CRAWF E1
• **Eberly Hall**.....EBERL D1
Engineering Auditorium.....ENGUD D2
• **Engineering Hall**.....EH D2
Eureka Building *off map*.....EURKA C4
(3400 Forbes Avenue)
Eye and Ear Institute.....EEINS C3
Falk Medical Bldg. (Falk Clinic)....FALKC C4
Falk School.....FALKS C1
First Baptist Church.....BAPST F1
(United Campus Ministry)
Fitzgerald Field House.....FHOUS A3
Forbes Avenue Classrooms.....FOBLD C4
off map (3347 Forbes Avenue)
Forbes Bldg.(3501 Forbes Ave.) FORBS C4
Forbes Craig Offices.....FCRG G2
Forbes Pavilion.....PAVLN C4
(Forbes [res.] Hall, The Health Book Center, Department of Parking, Transportation, and Services)
Forbes Tower.....FRTOW D4
Fraternity Housing Cmplx.....FRAT B1, C2
• **Frick Fine Arts Building**.....FKART F3
Frick Int'l Studies Academy.....FRICK D3
Gardner Steel Conference Ctr...GSCC D2
Heinz Memorial Chapel.....HEINZ F2
Hill Building.....HILL C4
• **Hillman Library**.....HLMAN E3
Holiday Inn.....HOLDY E1
Holland Hall (residence hall).....HOLLD E3
• **Information Sciences Bldg.**.....IS F1
Iroquois Building.....IROQU D4
Jewish University Center.....JUC G2
Kaufmann Medical Building.....KAU C4
• **Langley Hall**.....LANGY E1
Lawrence Hall.....LAWRN E3
Learning Research & Dev. Ctr.....LRDC C2
Litchfield Towers.....TOWRS D3
(residence halls A,B,C)
Loeffler Building.....LOEFF D4
Log Cabin.....LOGCB F2
Lothrop Hall (residence hall).....LOTHP C3
Lutheran University Center.....LUC G2
Magee-Womens Hosp. *off map*....MAGEE C4
Masonic Temple *(see Alumni Hall)*
McCormick Hall (res. hall).....MCCOR E3
Medical Arts Building.....MDART D3
(Student Health Service)
Mellon Institute.....MELLI F1
(Pgh. Supercomputing Center)
Melwood Maintenance Building *off map*.....MELWD G1
• **Mervis Hall**.....MERVS F4
• **UPMC Montefiore**.....MONF B4
• **Music Building**.....MUSIC F1
The John M. and Gertrude E. Petersen Events Center.....PCNTR B2
Pittsburgh Athletic Assoc......PAA E2
Pittsburgh Board of Education.....PBE G2
Post Office (Oakland Branch).....POST F4
UPMC Presbyterian.....PRESB C3
Public Health.....PUBHL D3
(Crabtree and Parran Halls)
Rangos Research Center.....RANGO C4
Ruskin Hall.....RUSKN F1
Ryan Catholic Newman Ctr......CATHO F1
(The Oratory) *off map*
St. Paul Cathedral.....SPAUL G1
Salk Hall.....SALK B3
• **Scaife Hall**.....SCAIF C3
Schenley Park.....*off map* G4
Sennott Square.....SENSQ D4
Soldiers & Sailors Memorial....SOSAM D2
Space Research Coord. Ctr......SRCC D2
• **Stephen Foster Memorial**.....STEPH F2
Sutherland Hall (residence hall)...SUTHD B1
• **Thackeray Hall** (registration).....THACK D2
Thaw Hall.....THAW D2
• **Thomas Detre Hall of the Western Psychiatric Institute and Clinic**.....TDH C3
Trees Hall (athletic facilities).....TREES A2
University Center (UPMC).....UCTR E1
University Child Development Center *off map*.....CHDEV G1
University Club.....UCLUB D2
University Technology Development Center.....UTDC G1
University Place Office Bldg.....UPLAC D2
Van de Graaff Building.....VNGRF D2
VA Pittsburgh Healthcare System–University Drive Division.....VA B1
• **Victoria Building**.....VICTO C4
• **Wesley W. Posvar Hall**.....WWPH E4
Western Psychiatric Institute and Clinic *(see Thomas Detre Hall)*
William Pitt Union.....WPU E3
Wyndham Garden Hotel.....WYNDH C4

• - library in building Ⓟ - public parking
Ⓜ - metered parking



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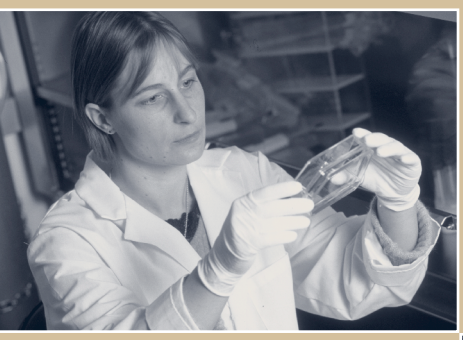
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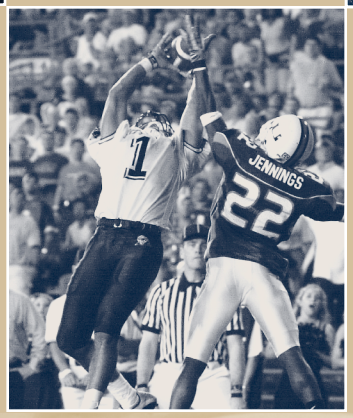
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